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P R E F A C E.

THE passing away of another Year, and the close of another Volume of the FLORICULTURAL CABINET, necessarily imposes upon us the pleasing duty of returning our grateful acknowledgments to our Friends for the unabated support which they have continued to favour us with.

We very sensibly feel the friendliness of our supporters, which, after thirteen years of Editorial labours, is not only continued, but increasing proofs of favourable regard are constantly afforded us. This extended and substantial sanction of our Magazine has evinced that our annual promises have been most satisfactorily realized, and our labours favourably regarded.

The very unprecedented sale of the FLORICULTURAL CABINET assures us of its having a firm hold of a Floricultural public, and this is to us in the highest degree flattering.

This encouragement will excite us onward, and give a fresh impulse in increasing zeal to future duties, and in demonstrating that our gratitude to our numerous supporters is genuine, deep, abiding, and again most cordially renewed.

During the past year we have had numerous testimonies forwarded us of the improvement effected in the Volume now closing, especially so in the faithfulness and excellence of the new style of Engraving and Colouring of the Figures in our Plates, as well as of the selection of the new and best flowers given. In these respects we shall not only in future endeavour to maintain our position, but, as far as practicable, improve thereon.

Hitherto we have successfully appealed to our friends through this medium for their assistance in literary contributions, of what is deemed interesting and useful to Floriculturists. We feel assured our long faithful friends will not fail us now, and we in addition respectfully

solicit the co-operation of new Contributors. With such aid we can assure our Supporters no exertion on our part shall be wanting to render the FLORICULTURAL CABINET what it is in every respect professed to be.

Downham ;
December 18th, 1845.

UNIV. OF
CALIFORNIA



TO VIND
 AMBROSIA

M^r PLANT'S SEEDLING CALCEOLARIAS.

Floricultural Cabinet.

(habets Enceygraphy, Skinner Street.

THE
FLORICULTURAL CABINET,

JANUARY 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS
AND
EMBELLISHMENTS.

ARTICLE I.

CALCEOLARIAS, SEEDLING VARIETIES, RAISED BY MR. JOSEPH PLANT, FLORIST, CHEADLE, STAFFORDSHIRE.

IN former volumes we have figured several of the fine seedling Calceolarias, raised by Mr. Plant, and remarked too upon his great perseverance and success in raising some of the best kinds which have been produced. We have now the pleasure to introduce an entire new section of these lovely flowers, viz., a striped class. Specimens were sent us during the past summer, consisting of several varieties, from which we selected those now figured; and we have no doubt the great beauty and novelty they possess will soon conduct them into every good collection. They are, we believe, shrubby kinds, which renders them more valuable. An intermixture of these with some of the large self-coloured varieties, will, no doubt, furnish additional beauties. We hope Mr. Plant will meet with that encouragement his industry entitles him to, in an extensive sale of the varieties we now figure.

Some judicious remarks upon the culture of Calceolarias was given in our last volume, p. 132, to which we beg to refer our readers; also to p. 118 in the same volume, and to several other communications inserted in previous volumes, giving ample particulars of the entire routine of treatment.

VOL. XIV. No. 155.

A

ARTICLE II.

ON THE NORTHERN FLORISTS' TREATMENT OF THE
POLYANTHUS.

BY MR. JOHN SLATER, FLORIST, CHEETHAM-HILL, MANCHESTER.

No flower can more justly lay claim to the title of being beautiful than the Polyanthus. Its varied tints, the richness of its colouring, the grace and elegance of its form, agreeable fragrance, easy propagation, hardy nature, and being one of Flora's earliest visitors, it is welcomed with no ordinary feelings of satisfaction by every one who possesses the least taste for flowers. To the industry and zealous attention of the northern florists we are much indebted for the rapid and progressive improvement it has made during the last few years.

It is supposed to owe its origin from both the Primrose and the Oxlip.

The Polyanthus is grown to the greatest perfection in an airy situation, yet sheltered from the rays of the sun, as its excessive heat has a tendency to impair its strength. In the spring it is necessary to examine the plants and pots minutely early in the morning, as well as in the evening, to destroy all slugs and snails which may be found upon them, as they are very great enemies to this plant. The Polyanthus has also another formidable enemy, though small; this is the acarus, or red spider. When the plants are infected with this destructive insect the leaves become yellow and spotted. The best remedy is to remove the infected plant immediately from your collection, and place it in a more distant situation, and soak it in a strong infusion of tobacco-water. A sprinkling of quick-lime upon the plants has been found beneficial and effectual.

The young florist is recommended to select his plants in bloom.

The Polyanthus grows best in a light sandy soil, and some florists add peat when a yellow sandy soil cannot be got. The following compost will grow them well:—

- | | | |
|----|-------------------------|---------------------------------|
| 1 | peck light yellow loam. | |
| 1 | „ sand. | |
| 1½ | „ cow dung, | } to be at least two years old. |
| 1½ | „ horse ditto, | |
| 1½ | „ leaf mould. | |

The properties of a fine Polyanthus are as follow:—

The stem ought to be strong, elastic, and erect, of such a height that the truss may be above the grass or leaves of the plant. The foot-stalks should be stiff, and of a proportionable length to the size and quantity of the pips, and not less than five or more in number, that the truss may be close and complete. The pipe, tube, or neck of the petal should rise above the impalement, be short, and finish fluted in the eye; the antheræ should cover the neck of the tube: this is what the florists call a *thrum eye*. When the style perforates and shows its stigma above the antheræ, this is called a *pin eye*, from its resembling a pin head. Such a flower is rejected by all modern florists, let its other properties be what they may.

The tube should be round, of a bright yellow colour, well filled with anthers, bold and distinct. The eye should be round, of a bright clear yellow, and distinct from the ground or body colour. The ground or body colour should be a dark rich crimson, resembling velvet, quite free from speck or blemish of any kind. The pips should be large, and of rich and lively colours, and nearly all of one size, and lie quite flat and smooth, as free as possible from ridges or fluting, and as round as they well can be to preserve their peculiarly beautiful figure, which is circular, excepting those small indentions between each division of the limb, which divide it into five or six heart-shaped segments. The edging should resemble a bright gold lace, exactly the same colour as the eye, and go perfectly round each petal, also down the centre of each division of the limb to the eye, and the lacing or edging to be all of one breadth.

The best period for potting plants is after blooming, which will be in June, when especial care should be taken to make a good drainage. The plants must be dressed, and all offsets or heads which have roots should be detached. After potting, water well, that the soil may be the better settled to the roots, and place them in a shady yet airy situation, and water them only when it is actually necessary, else there is a probability of their perishing by the rot. They will require protection during the winter months; a frame is the best, taking care to let them have the advantage of all fine weather. In March you may give them the benefit of all gentle showers of rain that may fall. Top dress them with a strong compost. The compost generally used is cow-dung and horse-dung, very old, and a very small quantity of coarse sand. If you intend to exhibit, you must

thin out all superfluous buds; those in the centre are the best to be taken away.

New varieties are raised from seed; and, if you wish to be successful, take seed only from those kinds which possess good properties. When the seed-vessels begin to open the seed is nearly ripe, and every day you must gather such heads as are brown, or else you will in all probability lose the best of your seed. The seed should be spread upon paper, and perfectly dried before it is laid by, to be kept in that state until the last week in January or first week in February, when it must be sown in small pots, and the seeds covered with soil about the thickness of a shilling, then covering the pot over close with a glass. The plants will make their appearance in about six weeks. When they are large enough, transplant them into other pots, about one inch apart, and in June or July transplant into other pots. When they require watering, do it with a brush by rubbing your hand over it, so that it may fall upon the soil like a heavy dew.

ARTICLE III.

ON THE DISPOSITION OF FLOWERS IN MASSES,

BY LUCY.

THE system of disposing plants in masses, so frequently and ably advocated in the FLORICULTURAL CABINET, is becoming very general, and certainly produces a much better effect than the tedious monotony of an indiscriminate mixture. In the practice, however, of this superior method, it should be remembered, that the groups and masses ought to be considered as parts of a whole, and as such, should harmonise and unite with each other, with regard to form and colour. Without attention to this point, the several disunited and independent parts will no more form a gardenesque landscape, than the colours arranged on the painter's palette will of themselves form a picture. I have known more than one small garden spoiled by a disregard of proportion, the shrubs and flowers being disposed in groups of far too large a size. In such a situation, a single plant, or a group of two or three, must be considered to bear the same proportion to the whole, as much larger masses or groups bear in the case of a park. Although I approve, as I have said above, of the principle of placing different species in groups and masses, I think that there are cases in which,

like all other principles, it may be carried too far. In a small flower-garden which I very much admire, I have seen a group, composed of myrtles and China roses, planted alternately in quincunx order, the larger plants being in the centre ; and, in my opinion, a better effect was produced than if the two genera had been in separate masses : the rich green colour of the myrtles' leaves, forming a ground to the beautiful white of the flower ; the light and elegant foliage and pendant bloom of the rose ; the mingled colour, and the associations connected with both, made an impression upon me which I shall not easily forget. In the same garden there was a group consisting of an acacia, the broader and more shadowy plumes of the sumach, and the pendulous clusters of flowers of the laburnum, composing a little picture of the most highly finished character.

Gardeners might find much instruction from an examination of even cottage gardens, in many of which I have seen a degree of good taste that is not always found where there is more reason to expect it. In such gardens, it often happens that very striking effects are produced by a judicious disposition of plants of the most common description ; and I think it would be a very useful study to endeavour to imitate them with plants of more rare and choice species. I was once much struck by a particular effect (not, however, of sufficient general interest for a place in your Magazine,) produced by a plant of the common hop ; and it was not until after many trials that I could find a substitute for it among more choice plants ; at length, however, I succeeded to my own satisfaction by means of one of the genus *Clematis* ; the species I do not with certainty know.

In small gardens, nothing can be more displeasing than a want of neatness and high finish ; it reminds me of a flower-painter of the last century, who used the most dingy and sombre colours that he could find, saying that he imitated Raphael, and painted for posterity. In the case of a small garden, it should be remembered that, whatever may be the beauty of the design, constant attention, and the frequent removal of plants, are indispensable : three or four years of neglect would leave nothing, either to posterity or the designer himself, but a tangled and matted thicket of such plants as might come off conquerors in the struggle for life incident to want of sufficient space.

ARTICLE IV.

THE METROPOLITAN FLORAL EXHIBITIONS.

HORTICULTURAL SOCIETY, *Chiswick, June 21, 1845.*

THIS was the second exhibition of the 'season, and fully merited equal commendation with that we expressed relative to the first grand show. The day, happily, on this occasion, was very favourable, and the number of visitors, we were informed, exceeded twelve thousand. The collections, and specimens of plants, were, as usual, very numerous, and a particular account of all would extend these remarks over a considerable portion of our pages, we must therefore only notice the finest specimens in the collections of stove and greenhouse plants with any deserving new kinds, and briefly enumerate the prize collections of "florists flowers."

CLASS I.

PELARGONIUMS.

In collections of 12 new kinds: open to Private Growers only.

1st. Mr. E. Beck, Isleworth, with Rosy Circle, Mustee, Arabella, Desdemona, Zenobia, Aurora, Isabella, Favorita, Marc Antony, Bellona, Hero, and Sunset.

2nd. Mr. Cock, Chiswick, for Shepherdess, Vixen, Sarah, Eliza Sauvage, Duke of Cornwall, Pulchellum, Cyrus Superb, Queen Philippa, Emma, Cora, Hector, and Magog, very fine.

3rd. Mr. R. Staines, Paddington, for Duke of Wellington (Staines), Emperor Nicholas (Staines), a fine flower, with a feathered spot in upper petals; Merry Monarch (Staines), Sir Robert Peel, Fair Maid of Leyton, Andromache (Staines), Witch, Sunrise, Superba, Adonis, Cedric (Staines), and Sir Walter Scott.

Nurserymen.

1st. Mr. Gaines, Battersea, for Rose of Arragon, Don Juan, Princess Alice, Prince of Wales, Ackbar, fine; Princeps, fine; White Surrey, a beautiful specimen; Fire King, Pirate, Oberon, fine; Mojub, fine; and Lord John Russell.

The only exhibitor.

In collections of 12 older varieties.

Private Growers.

1st. Mr. Staines, with fine specimens of Enchantress, Erectum, Alice Gray, Nestor, Lady Sale, Achilles, Roulette, Madeline, Sunbeam, Hebe, Superbum, and Duke of Cornwall.

2nd. Mr. E. Beck, for Matilda, Duke of Cornwall, Lucy, Zenobia, Favorita, Conflagration, Pulchellum, Bella, Arabella, Rosy Circle, Constellation, and Amazon.

3d. Mr. Cock, for Pre-eminent, Duke of Cornwall, Mulberry, Milo, Queen Philippa, Rosetta Superb, Wizard, Black Dwarf, Tristram Shandy, Shepherdess, Nameless, and Constellation.

Nurserymen.

1st. Mr. Gaines, for Floridum, Lady Sale, Hermione, Prince of Wales, Albina,

Albert Prince of Wales, Witch, Sylph, Duchess of Sutherland, Coquette, Madeline, and Cossack.

No other exhibitor.

In collections of 6 varieties, grown in large pots.

Private Growers.

1st. Mr. Bromley, gardener to Miss Ankerdon, Hammersmith, for Juba, Sylph, Annette, Ophelia, Lellia Jones, and Graud Duke.

No competitors.

Nurserymen.

1st. Mr. Gaines, for magnificent specimens of Mrs. Stirling, Matilda, Sylph, Erectum, Kinghornii, and Lady J. Douglas.

No other collection.

Roses.

In collections of 25, grown in pots.

Nurserymen.

1st. Messrs. Lane and Son, Berkhamstead, with very compact dwarf specimens of Psyche, Duke of Devonshire, compact, pale rose; Moire, globular light yellow; Augustine Hersent, bright rose; Anteros, Eliza Sauvage, Henry V., Mirabile, straw with pink shade; Coup d'Amour, General Vallée, straw with flesh-coloured centre, very handsome; La Pactole, light yellow; Princesse de Lamballe, snowy white; Siléné, crimson; Princesse Marie, fine; Crimson Globe; Reine Victoré, light yellow, good; Eugene Beauharnais, light crimson; Souvenir de Malmaison, creamy with blush centre, large well expanded flower; Bride of Abydos, Napoleon, blush; Harrisonii, Abbe Mioland, Nemesis, Amie Vibert, and General Kleber.

2nd. Messrs. Paul and Son, Cheshunt, for Caroline, Clara, Sylvain, Armosa, Celestine, Bride of Abydos, Madame Roussel, a good light flower; Celimene, Madeline, William Jesse, Blairii, Bouquet de Flora, large carmine; Emile Courtier, Don Carlos, Auberon, Velours Episcopal, Chenedole, Mrs. Busanquet, Sophia de Marcey, blush, with rose centre, fine; Madame Aude, pale lilac-pink; Proserpine, compact, bright crimson; Princesse Helene, white, with lemon centre; Aménous, Graine Douk, Madame Desprez, Bourbon Queen.

3rd. Mr. Laing, Twickenham; the best amongst which were General Allard, Marie de Medecis, Julie Manais, beautiful clear straw-colour; Grandissima, good form; Comte d'Osmont, Duchesse de Montebello, General Soyez, Celestine, Mr. Ware, Julie d'Etanges, Blairii No. 2, Belle de Segur, pale straw, good; and Aurora.

In collections of 50 varieties, cut blooms, exhibited in bunches.

The exhibitions in this class were numerous, and comprised many very splendid specimens, but owing to the great heat of the day, the blooms soon began to wither.

Private Growers.

1st. Mr. H. Batteridge, Abingdon, with some fine grown flowers, particularly of Duke of Devonshire, Glory of France, Devoniensis, Charles Louis, and Princesse Marie.

2nd. Mr. Parsons, Enfield; the finest of these were Napoleon, Therese, Isabella, Aurora, Archduke Charles, and Flora.

3rd. Alexander Rowland, Esq. Rosenthal.

Nurserymen.

1st. Mr. Laing, Twickenham. Amongst these we noticed George IV., violet purple; Pompon Bicolor, La Majesteuse, fine; Belle Marie, Triomph de Laqueue, rosy lilac; Las Casas, Brennus, carmine; Belle de Rusny, delicate rosy lilac; Coup d'Amour, General Allard, Octavie, Coquerell, Reine de Français, Bonaparte, Aurelie, Lemaire, delicate rose; Queen Adelaide, Cristata, La Fiancée, Densiflore, Belle d'Antenil, Coquette de Montmorency, Madame Laffay, Princesse Helene, Preval, Princesse de Lamballe, and Felicité Parmentier.

2nd. Messrs. Cobbett, Woking. Amongst these were fine blooms of Great Western, Comtesse de Lacedepe, Miralba, Prince Albert, Lady Alice Peel, Charles Louis, General Christiana, unique, pure white; Royal Provence, Robin Hood, pinky lilac, fine; Madame Laffay, Bernard, La Ville de Bruxelles, Duchesse d'Orleans, Colonel Combes and Queen of Denmark.

3rd. Messrs. Paul and Son, Cheshunt. Amongst them we observed fine blooms of the beautiful yellow briars Harrisonii and Persian; also of Deesse de Flore, white, with flesh centre; Leon le Dix, Belle Marie, Carre de Boisdeloup, Coup d'Amour, Devigne, pale salmon; Eynard, large carmine; General Kleber, violet red, compact; Henri Barbet, crimson red; Madeline, french white, with crimson edge; La Grandeur, shaded purple crimson; Lady Fitzharris, Petit Pierre, violet red; Princess Augusta, Volney, rosy lilac, compact; Felicite, white, with blush centre; La Negresse, slate purple; Aspasie, blush; Belle Rosine, Duchesse d'Angouleme, Duchesse d'Orleans, Fanny Bias, Latone, Malesherbes, purplish crimson; Octavie, Princesse Marie, William IV., Auberon, Mrs. Elliot, pale rosy violet; William Jesse, Armosa, Bourbon Queen, Cramoise Superieur, Madame Bréon, rosy pink; Reine de Lombardie, crimson purple; Nina, rosy blush; and La Cameleon, blush changing to crimson.

In addition to the above, collections were shown by Mr. Mitchell, of Piltown, and Mr. Rivers, of Sawbridgeworth. That from the former was considered by the judges the best collection, but disqualified on account of being improperly shown. In it we saw beautiful blooms of Lamarque, fine pale yellow; Ancelin, fine crimson; Marshal Soult, Las Casas, Athalie, Couture, Celestial, bright rose; Camuzet carné, Leda, blush white; Belle Allamande, shaded blush and cream; Delphine Gaudot, large creamy white; De Valmage, Taglioui, Nitida, creamy blush, globular; Originale, Fulgore, bright rose; Princesse Helene, Madame Laffay, Prince Albert, shaded red; Lord John Russell, Blairii No. 2, and Belle Helene. In Mr. Rivers's collection, we noticed Etna, a fine rich red; Royal Marbled, Clara Sylvain, Prince of Wales, very globular; Safrano, Triomph de Luxembourg, Leopold de Beaufremont, fine lilac; Velours Episcopal, and George IV.

*In collections of 25 varieties.**Private Growers.*

In this class collections of good flowers were sent by Mr. G. Wemyss, gardener to J. Slater, Esq., of Uckfield, and Mr. Terry, gardener to Lady Puller, of Youngsbury, Herts; but they did not contain any varieties which have not been enumerated.

Nurserymen.

Mr. Francis, of Hertford, was the only exhibitor. Amongst them were Agéne, Blanche fleur, La Vestale, Adèle de Lenanges, Belle Parabere, Belle Marie, Charles Louis, Duchesse de Montebello, Fimbriata, General Kleber, La Grandeur, Triomphe de Laqueue, Las Casas, President Mole, Princesse de Lamballe, Bernard, Duc d'Aumale, Lady Fordwich, and Madame Laffay.

THE METROPOLITAN FLORAL EXHIBITIONS.

MOSS ROSES.

In collections of 12 varieties.

In this class collections were sent by Messrs. Paul, Mr. Mitchell, Mr. Rivers, and Messrs. Cobbett. Messrs. Paul's collection comprised *A feuilles d'Agathe*, *Alice Le Roy*, *Angelique Quétier*, *Cristata*, *De Meaux du Luxembourg*, *Éclatante*, *Louise Collet*, *Oscar Foulard*, *Pourpre de Laffay*, *Princess Royal*, and *Unique de Provence*. The other collections were nearly the same.

CAPE HEATHS.

In collections of 20 species.

Mr. Robertson, gardener to Mrs. Lawrence, was the only private grower who exhibited. We noticed *E. Radiata*, 3 feet by 3, a fine bush, not quite in bloom; *Cavendishii*, very good; *Tricolor*, very pretty; *Ventricosa carnea*, fine; *Ovata grandiflora*, very fine; and good plants of *Tricolor elegans*, *Ventricosa superba*, and *Ventricosa alba*.

Nurserymen.

1st. Messrs. Fairbairn, Clapham. The most conspicuous plant in this collection was *E. Cavendishii*, fully in bloom, nearly 4 feet high, and as much across: we do not recollect ever to have seen a finer specimen than this. We also observed fine plants of *Ventricosa breviflora*, *Ventricosa tricolor*, *Jasminiflora*, *Alba eximia*, *Savilleana*, var. *major*, pretty, and *Halicacaba*, with pale green flowers, very pretty.

2nd. Mr. Frazer, Lea Bridge.

3rd. Messrs. Rollisson, Tooting. Amongst this collection was *Coventryana*, small, but very pretty; *Tricolor elegans*, fine; *Tricolor elegans superba*, beautiful; *Metulæflora*, very neat; *Ventricosa globosa*, *Daphnæflora*, *Humeana*, and *Massonii*.

In collections of 12 varieties.

Private Growers.

1st. Mr. Green, gardener to Sir E. Antrobus, Bart. Amongst these was *E. propendens*, large; *Tricolor*, good; *Ventricosa alba*, a pretty bush; and *Beaumontia*, a fine plant.

2nd. Mr. Barnes, gardener to G. W. Norman, Esq., Bromley. We observed *Gemmifera*, a fine dwarf plant; *Tricolor*, very fine; *Tricolor major*; *Tricolor coronata*, a superb variety; *Impulsa*, very elegant; *Westphalingia*, *Dilecta*, and *Deusa*.

3rd. Mr. W. Taylor, gardener to J. Costar, Esq., Streatham. Amongst these we noticed *Viridiflora*, a fine plant, full of its singular green flowers; *Tricolor nova*, very pretty; *Tricolor Leeana*, *Solandroides*, *Ovata*, and several varieties of *Ventricosa*.

Nurserymen.

1st. Messrs. Veitch and Son, Exeter. In this collection was a magnificent *Cavendishii*, densely covered with bloom, but badly coloured; *Cupressina*, equally fine; *Tricolor*, a superlative specimen; *Metulæflora*, very pretty; *Densa*, neat; *Vestita rosea* and *alba*, fine plants; with *Alberti rosea*, *Metulæflora*, *Halicacaba*, and *Ventricosa breviflora* and *globosa*. These plants were potted on the system practised with success in Devonshire, but which will not answer in the neighbourhood of London; elevating the collar of the plant considerably above the rim of the pot.

2nd. Mr. Frazer, Lea Bridge. We noticed a fine *Daphnoides*; *Tricolor dumosa*, good; *Tricolor*, fine; with *Ventricosa tricolor*, *superba*, and *tenuiflora*, and good plants of *Bergiana* and *spuria*.

*In collections of 6 varieties.**Private Growers.*

1st. Mr. May, gardener to E. Goodheart, Esq., Beckenham; for *Splendens*, admirably bloomed; *Masoni*, a fine plant, in beautiful bloom; *Elegans*, very beautiful; *Ventricosa alba*, *Odore rosæ*, and a fine *Tricolor*.

2nd. Mr. Bruce, gardener to B. Miller, Esq., Mitcham; with *Cavendishii*, in fine bloom; *Tricolor*, very pretty; *Bergiana*, very neat; *Vesti a coccinea*, well coloured; *Ventricosa superba*, and *Eximæa*.

3d. Mr. Jack, gardener to G. Lorraine, Esq., Wallington; for *Gnaphaloides*, a singular kind, appearing as if covered with cobwebs; *Ventricosa globosa*, *Tricolor*, *Westphalingia*, and *Carnea*.

Nurserymen.

1st. Mr. Dawson, Brixton; with *Massoni*, very fine; *Pregnans minor*, pretty; *Campanulata*, good; *Odore rosæ*, and a neat *Tricolor*.

2nd. Mr. Kpps, Maidstone, for *Ventricosa*, *V. breviflora*, *Coccinea minor*, *Rosa superba*, and *Perspicua nana*.

3rd. Mr. Glendenning, Chiswick. The best of these were *Suaveolens*, *Vestita rosea*, and *Albicans grandiflora*.

Single specimens of superior growth.

1st. Mr. May, Beckenham, for *Massoni*, a magnificent plant.

2nd. Mr. Dawson, Brixton, for *Pulverulenta*, a singular pyramidal plant, 4 feet in height, and about a foot in diameter at the base.

CALCEOLARIAS.

In collections of 6 varieties.

There were only three exhibitors in this class. Mr. Stanley, gardener to H. Berens, Esq., was the only private grower. His collection contained *Emperor of Russia*, fine; *Fortune Teller*, *British Queen*, *Othello*, *King of Saxony*, and *Sylph*. Mr. Gaines, nurseryman, Battersea, received the large silver medal for a neat and well-grown collection, containing *Flash*, *Lady Ann Chartres*, *Prince of Wales*, *Beauty of Vellore*, *Prince Alfred*, fine; and *Tigrida*. Messrs. Holmes, of Sudbury, sent *Lady Vernon*, a distinct and beautiful kind; *Prince Alfred*, *Duke of Wellington*, *Duchess of Kent*, *Lady Cotton Sheppard*, and *Hon. W. C. Anson*. All the plants were, however, much destroyed by a long journey.

PINKS.

*In stands of 24 distinct varieties.**Nurserymen.*

1st. Mr. Willmer, Sunbury; for *Matilda* (Willmer), *Prince of Wales* (Willmer), *Splendid* (Sharp) quite rose-leaf and an excellent flower; *John Dixon* (Neville), *Queen Victoria* (Bunkell), one of the best; *Hodge's No. 16*, fine rose-leaf; *Coronation* (Holmes), good; *Queen Victoria* (Willmer), *Queen Victoria* (Hardstone), *Gaylad*, *President* (Creed), *Eclipse* (Brown), *Queen Victoria* (Werden), *Melona* (Hodge), *Model* (Brown), *Prince Albert* (Hardstone), *Tower* (Church), *Rosanna* (Church), *Sarah* (Willmer), *Navigator* (Church), *Mary Ann* (Jelf), *Alpha*, *Defiance* (Norman), and *Majestic* (Collings).

2nd. Mr. Henbrey, Croydon, for *Beauty*, *Melona*, *Earl of Stanhope* (Neville), *Jack* (Wilson), *Gem*, *Prince Albert*, *Sir R. Peel*, *Diamond*, *Fury*, *Coronation*, *Defiance* (Marshall), and 13 Seedlings, not named.

RANUNCULUSES.

In stands of 12 distinct varieties.

Private Growers.

1st. Mr. Betteridge, Abingdon; for nice blooms of Rival, Hippolita, Melange des Beautés, Beauty, Brenda, Ponceau pourpre, Nomias, Queen Mab, Cedo Nulli, La Blanchisseuse, Oidiet d'Anvers, and Naxara.

2nd. Mr. Airree, City Road, London, for Edgar (Tyso), Mirabelle (Aust), Milo (Aust), Felix (Tyso), Attractor (Tyso), Lucia (Kilgom), Dr. Franklin, Emancipator (Lightbody), Dr. Gardner (Lightbody), Rob Roy, Emperor, and Harold.

In stands of 24 distinct varieties.

Nurserymen.

Messrs. Tyso and Son, of Wallingford, were the only exhibitors; their blooms, however, were very fine, and attracted much attention; the extreme delicacy of colour and symmetrical shape in some of the varieties were indeed beautiful.

The stand comprised Apollo, Belle Agreeable, Son, Financier, Burns, Glacia, Mirabelle, Niobe, Passe Cour de France, Philocles, Princess Royal, Queen Victoria, Alexis, Arbitrator, Attractor, Cathcart, Champion, Dilectus, Edgar, Glennete, Wilson's No. 5, Vendome, Victor, Tippoo Saib, and Nonsuch.

In addition to the preceding, Messrs. Tyso and Son exhibited a stand of 100 blooms, not for competition; amongst which we particularly admired Ada, Albinus, Saladin, Orlando, Amadis, Basilica, Comptroller, Creon, Laureate, Jubal, Grand Roman, Imbert, Herbert, Gippins, Felix, Flaminus, Arbrisseau, Bishop Van Lina, Delphinium, Fête Nocturne, Marquis of Hertford, Louise, Horatio, Hercules, Henrietta, Comtesse de Plaisance, Condorcet, Melpomene, Nestor, Rosney, Semiramis, Oresus, Overwinnaar, Roi des Rénoncules, Rosney, Sir Sydney Smith, Sophia, and Temeraire.

CLASS II.

All persons competing without restriction.

STOVE OR GREENHOUSE PLANTS.

In collections of 40 different varieties.

1st. Mr. Barnes, Bromley. This group was an extraordinary production, and was allowed, by every cultivator who saw it, to be one of the best specimens of horticultural skill ever produced at the show. Among the most remarkable plants was a dense thicket of *Phœnocomma prolifera*, 2 feet in height, and about 4 feet in diameter, the branches hiding the pot, and profusely covered with flowers; closely allied to this genus were two magnificent plants of *Aphelaxis humilis*, about 18 inches in height, and 3 feet in diameter, and densely clothed with bloom, which, on this occasion, owing to the brightness of the day, expanded beautifully; *A. sesamoides* formed a perfect cone; and there was also a small but very admirable specimen of *A. grandiflora purpurea*. Of the genus *Clerodendrum* there were several plants, all remarkable specimens; *C. paniculatum* had a spike of flowers 3 feet in height, and 4 feet in circumference at the base, and the extreme circumference was nearly 20 feet. A fine plant of *Ixora rosea* was very much admired, as were also two admirable dwarf and compact specimens of *I. grandiflora*. Not less remarkable were two immense bushes of *Pimelea decussata* and *Epacris grandiflora*, in admirable bloom. There were also fine plants of *Polygala cordifolia*, *Statice macrophylla*, *Dillwynia pungens*, and *Stephanotis floribunda*; the latter on a flat circular trellis, well bloomed;

and two grand plants of *Rondeletia speciosa*, in fine condition. In the genus *Erica* the collection was very rich, containing fine specimens of *Odore roseæ*, in admirable bloom; *Vestita coccinea*; and *Vestita alba*, very fine; *Thunbergia*, a fine bush, with small orange flowers; the singular *Plukenetii*, a bush 3 feet in height, and 4 feet in width; an admirable plant of splendens, and others.

2nd. Mr. Robertson, gardener to Mrs. Lawrence, Kaling. In this collection were several specimens of great excellence, especially *Pavetta caffra*, 8 feet in height, and 4 feet through, forming a rich cone of verdure, prettily covered with white flowers, but not quite sufficiently in bloom. *Clerodendrum Kämpferi* was also very fine, having a spike of flowers 18 inches in height, and 4 feet in circumference; *C. squamatum* and *fallax*, though rather too much drawn, were also very fine. A dwarf bush of the simple but pretty *Stylidium fasciculatum*, with its small white flowers, was very neat; as were also compact bushes, in fine bloom, of *Erica depressa*, and *Eriostemon buxifolium*. A large standard plant of *Polygala oppositifolia* was remarkable, and particularly so was the singular *Medinilla erythrophylla*, with its pretty pink flowers protruding all over the woody stem. We likewise noticed fine plants of *Besleria pulchra*, *Cestrum aurantiacum*, *Pentas carnea*, *Manettia cordifolia*, and several others, with a very neat bush of *Acrophyllum venosum*.

In collections of 20 different varieties.

1st. Mr. Frazer, Lea Bridge. In this collection was a fine plant of *Erica Bergiana*, 3 feet high by 4 feet across, most profusely in bloom, but the flowers were not well coloured; there were also several other fine Heaths. *Pinelia hispida* and *decussata* were dwarf and well managed. *Dillwynia floribunda*, very pretty; *Statice arborea*, large but rather destitute of foliage; *Gompholobium splendens*, with bright yellow flowers, very pretty; *Burchellia capensis*, 4 feet by 4, well in bloom; *Coleonema tenuifolium*, delicately pretty; and *Gloxinea Youngii*, very good.

2nd. Mr. Ayres, gardener to J. Cook, Esq. We noticed a finely bloomed *Crocea saligna*, 4 feet by 4; *Viminaria denudata*, a singular plant, with long hair-like foliage, and spikes of bright yellow flowers; *Ixora crocata*, dwarf and remarkably well bloomed, as also was *Clerodendrum fallax*; *Gloxinia cerina*, in fine condition; and *Achimenes Beatonii*, very pretty.

The collections of 12 and 6 were very numerous, and contained many fine grown specimens, but nothing particularly new or rare.

EXOTIC ORCHIDACEÆ.

Of this beautiful tribe was presented a wonderful rich display; want of space, however, forbids our mentioning more than a few. From Mr. Mylam, gardener to S. Rucker, Esq., jun., we saw *Stanhopea tigrina*, with 14 fine flowers upon it; *Aerides odoratum*, with 24 spikes of its delicate flowers; *Saccolabium guttatum*, with nine spikes of beautiful flowers; *Cirrheæ fuscolutea*, with a number of its curious pale green flowers; the rare *Mormodes luxatum*; *Cattleya intermedia*, in a fine state; *Galeandra Baueri*, very pretty; *Aerides pulchellum*, variety, very pretty; and the curious *Anætochilus setaceus*, with its singular foliation. Mr. Robertson showed some remarkably fine plants, and from Messrs. Rollisson, of Tooting, was a *Stanhopea oculata*, with nearly 40 flowers upon it; *Vanda teres*, remarkably beautiful; and *Scuticaria Steelii*, with long rush-like leaves and lemon-coloured flowers spotted with brown, very curious. From Mr. Hyles, gardener to Sir G. Larpent, was a new species of *Aerides*, with spikes of rich violet-purple flowers, allied to *A. affine*, a very beautiful plant.

FUCHSIAS.

In collections of 12 varieties.

1st, Messrs. Lane and Son, with dwarf bushy plants of Mrs. Lane, *Pulcherrima* (Harrison), tricolor, *Brockmanii*, *Gigantea*, *Norfolk Hero*, *Achilles*, *Money-pennii*, *Grovehellii*, *Rogersiana*, *Venus Victrix* and *Paragon* (Smith).

2nd. Mr. N. Gaines, for large plants of *Cassandra*, *Goldfinch* (Harrison), *Pearl* (Harrison), *Coronet*, *Reflexa*, *Duchess of Sutherland* (Gaines), a good light flower; *Gigantea*, *Duke of Wellington*, *Expansa*, *Modesta* (Smith), *Madonna* (Harrison), and *Miss Talfourd* (Salter).

3rd. Mr. Robinson, gardener to J. Simpson, Esq., Pimlico; for *Vesta* (Smith), *Hope*, *Formosa elegans*, *Eppsi*, *Cormackii*, *Prima Donna* (Harrison), *Goldfinch* (Harrison), *Robinsonii*, *Exoniensis*, *Chandlerii*, *Coronet*, and *Madonna*.

NEW OR EXTREMELY RARE PLANTS.

In this class the best thing present was *Gardenia Stanleyana*, to which a first prize was awarded, from Mr. Glendenning, of Chiswick, though this specimen was a very poor one, having but one imperfectly developed flower upon it: for a figure and description see our last Number. Another specimen of *Gardenia*, introduced many years ago, named *Rothmannia*, received a third prize: it was shown as a rare plant by Messrs. Veitch of Exeter; Mr. Jack received the second prize for *Dipladenia crassinoda*. Mr. Elliott, gardener to J. Boothby, Esq., the fourth, for a singular, but very beautiful succulent plant, with a bunch of rich flesh-coloured flowers, called *Plumieria acuminata*; and a fifth prize was awarded to Messrs. Rollisson, for *Pitcairnia punicea*, with a spike of bright crimson-scarlet flowers. In addition to these Messrs. Veitch showed *Morina longiflora*, a hardy herbaceous plant, having a spike of blush-coloured flowers, 2 feet high; also a species of *Hoya*, with dull lemon-coloured flowers, called *H. trinervis*; and from Mr. Green, was a plant of *Tremandria Hugellii*.

SEEDLING FLORIST FLOWERS.

1844.

Pelargoniums.—Prizes were awarded to the following; viz., *Aurora*, Mr. E. Beck, Isleworth; described in No. 151, p. 223. *Desdemona*, Mr. E. Beck; figured and described in No. 151. *Mustee*, Mr. E. Beck, lower petals light pink, upper petals dark crimson belted with rose; a desirable flower. *Sunset*, Mr. E. Beck; see p. 223, No. 151. *Juno*, Mr. E. Beck, a flower of good qualities, and having very dark upper petals. *Gulnare*, Mr. McConack, gardener to E. Vines, Esq., under petals light rose with white to centre, upper petals dark crimson, and of good shape. In addition to these we noticed, as being almost equally fine, *Miss Halford*, Mr. Gaines, rosy-blush, lower petals, with rich crimson upper ones; a remarkably smooth and good textured flower, and an excellent trusser. *Alba grandiflora*, Mr. Gaines, a large white flower with a good eye, and a very desirable addition to this class, but it has a little too much roughness about it. *Standard of Perfection*, Messrs. Grady, Bristol, pale lilac, having a medium sized spot of deep crimson; it is a distinct and good flower, and opens remarkably flat. *Sunset*, Mr. Hoyle, of Guernsey, lower petals rosy-scarlet, upper ones deep crimson-scarlet with a dark spot; an excellent shaped and brilliant flower. *Heidos*, Mr. Hoyle; see our figure in No. 151.

Pinks.—Only one prize was awarded, to a seedling of Mr. Henbrey's, named *Beauty*, a tolerably good flower, the white very pure, and the crimson lace unbroken; Mr. Henbrey also showed another flower named *Fury*, a flower with a light red lace.

Verbena.—Hampstead Lily, from Mr. Pearson, of Hampstead, was the only one shown, it is a clear white in colour, compact in habit and a profuse bloomer. It received a prize.

1845.

Pelargoniums.—Two seedlings, named Competitor and Rosetta, from Mr. E. Beck, was awarded prizes; the former is a superior shaped flower with rosy-pink lower petals and dark crimson upper ones. Besides these Mr. Beck showed Dawn of Day, lower petals salmon-pink, upper petals salmon-scarlet, having a red spot; a pretty good shaped flower. Shiner, of similar colour and quality. Marcus, rosy lower petals with white centre; the upper ones dark crimson belted with rose; and Queen of the Isles, lower petals of a pretty rose colour, slightly feathered and lighter to the centre, upper petals dark crimson.

Calceolarias.—Prize, Compacta, Mr. Gaines, a distinct and fine flower. Prize, The Pet, Mr. Standish, Bagshot, a pretty dwarf variety. In addition, Mr. Standish exhibited Emperor, pale straw, full of small crimson spots; and Ovid, a distinct and good flower. Mr. Holmes, of Sudbury, showed London Rival, pale sulphur with large spots of maroon, fine; and Hon. Mrs. Harrison, a pretty spotted and good shaped flower; and Mr. Gaines showed Tricolor. Climax, Picta, and Flora, the latter a beautiful spotted flower.

ARTICLE V.

ON THE PROPAGATION OF PLANTS.

BY A LONDON NURSERYMAN.

A CORRESPONDENT having recently solicited some instructions on the best general methods of increasing stove, greenhouse, and similar plants, I forward you the mode I have pursued in each case for the last twenty years, on an extensive scale, and with great success.

1. *By Seeds*.—When an exotic is in flower that will produce seed, it should be put in a situation where it may receive benefit from the rays of the sun, and, if the weather permit, plentiful supplies of air and water, that the seeds may be sufficiently ripened and swelled to their proper size; for on these points much depends as to the future germination of the seed when sown. If the plant should happen to be exposed to the open air, as is the case with greenhouse ones in summer, it should be removed to a situation where showers cannot injure the impregnating and fertilizing part of the fructification. When the seeds (*semina*) become loose, and rattle in the seed-vessel or pod (*pericarpium*) when shaken, they are ripe, and should be gathered when quite dry; and, after exposure to the air in a shaded place, that they may still be further dried and hardened, done up in separate packets and named; they may then be carefully put by in a dry place till the following spring. From the latter end of February to the beginning of April is the most proper time for sowing exotic

seeds, unless they are imported from abroad, in which case some should be sown immediately, whatever season it may be when they arrive; for sometimes seeds will grow when first received, which will not if kept a few months longer. The remainder may be sown with your own collected ones, and spring sowing is always preferable; for the plant becomes strong to stand the succeeding winter. Pots of five inches diameter, and three and a-half inches deep, with plenty of potsherds, should be prepared previous to sowing, with a compost composed of two-thirds peat and one-third loam, well mixed together. In preparing the pots for sowing the seeds in, a large piece of broken pot, or oyster shell, should first be placed over the hole in the bottom of the pot; over this should be put an inch thick of finely-broken potsherds, to drain off the superabundant moisture from the seed; then fill the pot with coarsely screened compost (made as above directed), from an inch to a quarter of an inch from the top, according to the largeness or smallness of the seeds. The surface on which the seeds are sown, as well as the covering soil, should be sifted very fine. After the seeds are sown, cover them with soil to the top of the pot, and give them a gentle watering from a fine rose watering-can. The pots must now be plunged up to their rims in saw-dust in a previously prepared hot-bed, when the burning heat is over. Keep the frame-lights quite close, except allowing, in the middle of the day, a little for steam arising from the bed to pass off till the plants begin to appear. Due care must be taken to allow a supply of water when required. As soon as the rudiments of the second leaf are formed they must be removed to a shaded part of the stove, there to remain till the second leaf is perfectly formed, and the rudiment of the third leaf is perceived, when they must be carefully potted off in small thumb pots, in composts, according to their nature, and again placed in a sheltered place till they have taken root, when they may be finally but gradually exposed to their respective departments. The sooner seedlings are potted off the better, as they do not miss their moving when potted young. I should have observed that if hot sunny weather should occur (as is often the case) while they are in the hot-bed frames, they should be shaded in the middle of the day by means of mats.

2. *Cuttings*.—Most exotics will increase by this mode of propagation, and many of them by young cuttings a little hardened; some by ripened ones, and a few by means of very young ones. When it

is desired to propagate any particular kind by cuttings, an old shabby plant should be picked out for the purpose ; and if an inhabitant of the greenhouse, taken about Christmas into the stove, that it may produce its young shoots early ; and when grown to a sufficient length (say from one and a half to two inches), taken back to its own department to harden a little, and ripened more or less, as required. From Christmas to the end of April is the best time to increase by cuttings, as then the plants can root, and be potted off, in time to stand the winter season with success ; but it sometimes happens that the desired kinds are late before they produce fitting shoots, especially those that strike best from fully ripened cuttings ; these must, however, be put in when arrived at a proper state, and if they do not happen to have rooted sufficiently for potting till late in autumn, it would be best to defer potting them off in separate pots till early the following spring, but this must be left to the judgment of the propagator, as many kinds are apt to become wing-rooted, if left too long before they are potted off. Previous to commencing the operation, a sufficient quantity of pots (same size as recommended for seedlings), must be prepared after the following manner :—After a large piece of broken pot and potsherds have been put into the pot as already directed, fill it level with the top with fine clear sand in a moist state, and made as firm as it possibly can be with the hand, to exclude as much air as possible from the base of the cutting. In preparing the cuttings, care must be taken not to take any more leaves off than are requisite ; for the more leaves a cutting has on it the sooner it will root. The shallower cuttings are put in, so as they are well fastened, the better they will root ; for if planted deep, they are more likely to rot or damp off. The part planted in the sand should have its leaves taken off as close to the stem as possible without injuring it. From half an inch to an inch and a quarter may be considered the medium length to be inserted. *Ericas*, *Epacris*, *Diosmas*, *Brunias*, and all such fine-leaved delicate kinds, should be planted no deeper than absolutely necessary ; but cuttings of *Pittosporum*, *Pomederris*, and such like hardy-leaved woody kinds, may be put in a little deeper. After the cuttings are prepared, and well fastened in the pots of sand, give a gentle watering ; and when the moisture has dried off the leaves of the cuttings, place the bell-glass over them, and remove them to their respective situations—the stove kinds to a moist heat, plunged in a bark or dung bed ; the greenhouse kinds to the front

shelves in the greenhouse. The bell-glasses must all be shaded when the sun is powerful, by means of white-brown paper; and every morning they must be regularly wiped, or the moisture accumulating on the sides of the glass will cause the cuttings to turn mouldy, and eventually die off, even after they are rooted. Water must only be given when the top sand is become dry, and then a sufficient quantity must be given in a morning, so as to reach the bottom part of the sand. At the end of June the greenhouse kinds must be removed out of the house, and plunged in a shaded dry border till the following September, (when such as remain unstruck, if any, must be taken back to their former residence.) When they are plunged, they must be defended from rains by means of hand-glasses, each covering four or five pots with their bell-glasses. When the cuttings are rooted, the sooner they are potted off the better, in as small pots as they can be safely got into; for if too long, the sand is apt to injure the roots. When they are first potted, they should be kept under a close glass for a few days, and shaded with a mat till they have taken fresh root, and then hardened to the open air by degrees. If the young plants are drawn up too slender, their tops must be pinched off, to make them grow bushy. Those kinds that require heat must remain plunged in a hotbed till they are struck, and not be put into the open ground, as directed for those that require no heat. Soft-wooded kinds and herbaceous ones will not strike well in sand, and must therefore be planted in light mould. Geraniums may be struck in the open ground, covered with a hand-glass, all the summer months; but, where a large quantity are required, the best time is September. A slight hotbed, with a surface of six inches of light rich soil, and covered with a one-light frame, will strike them very well at this season. Some plants, as *Aloysia cyrtiodora*, &c., will not strike freely from cuttings, unless the two bottom joints are cut through in a transverse direction. It is a very erroneous opinion, entertained by some people, to think that a plant can only be preserved a few years by cuttings, and that it is only by seed that a plant can be raised so as to be propagated successively for ages. For myself, I should never be afraid of losing any plant after having once got it to thrive, and succeeded in propagating it by cuttings.

In my next article I will give instructions of increase by means of offsets and the various plant-divisions.

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New and Rare Plants.

ANEMONE JAPONICA. JAPAN ANEMONE. (Bot. Reg. 66.) Ranunculaceæ. Polyandria Polygynia. A native of Shanghai, the Japanese port of China. It was sent by Mr. Fortune to the London Horticultural Society. It has bloomed in the greenhouse in the Chiswick garden the past autumn. The flower stems rise about two feet high, bearing numerous very showy blossoms. Each flower is about three inches across, of a very rich purple, crimson and rose shades, with a yellow disk of stamens, much the appearance of a semi-double Dahlia. It inhabits damp woods on the edges of rivulets, on the Kifune Mountain near the city of Miako in Japan. Dr. Siebold says that it grows too at considerable elevations on the mountains of the centre of Japan, and that it is much cultivated by the inhabitants for the sake of its very beautiful blossoms. It is expected to be quite suited to the open border during summer, and probably endures winter too. It increases by offsets. It merits a place in every greenhouse or flower-garden.

ANTHOCERCIS ILLICIFOLIA. HOLLY-LEAVED. (Bot. Mag. 4200.) Scrophularinæ. Didynamia Angiospermia. A native of the Swan River Colony, where it grows on river banks. It has bloomed in the Glasnevin Botanic Garden, Dublin. It requires a warm greenhouse in winter, but a cooler situation in summer. The root is perennial; the stems woody at the base, growing to five feet high, copiously branched. The flowers are bell-shaped, with a five parted limb. The corolla yellow, the tube bell-shaped, greenish lines outside, but within marked with deep blood-coloured ones. Each blossom is about half an inch long, and three-quarters of an inch across. The plant blooms very profuse, and has a very interesting appearance; and as by pinching the ends of the shoots lateral ones are produced, the plant may readily be made bushy, and be brought into desirable limits.

CAMPANULA SYLVATICA. WOOD BELL FLOWER. (Pax. Mag. Bot.) Campanulacæ. Pentandria Monogynia. A native of Nepal, where it inhabits moist and shady places. It is a dwarf growing plant, annual. The flowers are about the size of the common way-side Bell flower of our own country, but stand erect, and are more spreading at the mouth. They are of a rich deep blue with a white eye. It makes a beautiful showy border plant. J. Allcard, Esq., of Stratford Green, in Essex, has it in profusion.

CYMBIDIUM GIGANTEUM. THE GIGANTIC. Orchidacæ. Gynandria Monandria. A native of Nepal. Mr. Gibson sent it to the collection at Chatsworth. The flowers are produced in nodding spikes of about two feet long. Each flower is three inches across. Sepals and petals green streaked with brown and red. Lip yellow with rich red spots around it, but the margin is white. It is a very fine and interesting species.

EVOLVULUS PURPUREA-CÆRULEUS. PURPLE-BLUE FLOWERED. (Bot. Mag. 4202.) Convolvulacæ. Pentandria Digynia. A very neat half-shrubby plant, twiggly, grows about two feet high, perennial, producing a profusion of lovely flowers, of the most intense blue colour with a white and red star-like eye. Each flower is about half an inch across. It inhabits rocks near the sea in Jamaica. It bloomed beautifully the past summer in the plant-stove at Kew. It is worthy a place in every garden.

GOVENIA FASCIATA. LINDEN'S GOVENIA. (Bot. Reg. 67.) Orchidaceæ. Gynandria Monandria. It is a native of the northern district of South America in Venezuela, in damp forests. The flowers are produced in an erect spike. A clear yellow marked with crimson bands. Each blossom is near two inches across. It is in the collection of Mr. Rucker, at Wandsworth.

HABROTHAMNUS CORYMBOSUS. CORYMB-FLOWERED. Solanæ. Pentandria Monogynia. (Bot. Mag. 4201.) A native of Mexico, sent by Mr. Low, of Clapton Nursery, to the Royal Gardens at Kew. It is a vigorous shrub, growing about five feet high, erect, and numerous branched. The flowers are produced in large terminal corymbose heads. The blossoms are tube formed, each an inch long, and a five parted limb about three-quarters of an inch across. It requires to be grown in a greenhouse in winter, but does best in summer in the open air. The fine heads of rich rose coloured flowers have a very showy and beautiful appearance.

LALIA PEDUNCULARIS. LONG STALKED. (Bot. Reg. 69.) Orchidæ. Gynandria Monandria. A native of Mexico. In the collection of G. Barker, Esq. Each flower is about three inches across, of a pretty lilac-rose colour, the lower part of the labellum being stained with dark crimson.

OXALIS SENSITIVA. SENSITIVE WOOD SORREL. (Bot. Reg. 68.) Oxalidaceæ. Decandria Pentagynia. It is a very little pretty annual plant from the East Indies. It is found wild in all the tropics of Asia. The leaves are like the common Humble plant, and in their native country, it is said, are so sensitive that they cannot bear the wind to blow upon them, or even that they should be breathed upon, for the least irritation they close up. The flowers are yellow, each about half an inch across.

REEVESIA THYRSOIDEA. THYRSE FLOWERED. (Bot. Mag. 4199.) Sterculiaceæ. Monandria Polyandria. A native of China, and is grown in the plant stove at Kew. It is a shrub growing about a yard high, branching. The flowers are produced in terminating corymbs, white with a tinge of cream colour. It is a very interesting plant. Each blossom is tube formed, near an inch long, and a five parted limb half an inch across.

RHYNCHOGLOSSUM ZEYLANICUM. THE CEYLONESE. (Bot. Mag. 4198.) A lovely little plant, growing a foot high, from Ceylon, annual or biennial. Flowers small, in long leafy racemes. Each blossom is tube-formed, half an inch long, blue on the upper side and nearly white beneath.

RUELLIA LILACINA. LILAC FLOWERED. (Pax. Mag. Bot.) Acanthaceæ. Didynamia Angiospermia. (Synonym *Justicia glabrata*.) An evergreen stove shrub, growing about two feet high. It blooms through the winter. The flowers are larger than those of the well-known beautiful *R. formosa*, something like a bloom of the common Indian *Azalea phœnicea*. It deserves a place in every hot-house. It is in the collection of Messrs. Rollisson's.

STANHOPEA INODORA. THE SCENTLESS. (Bot. Reg. 65.) Orchidæ. Gynandria Monandria. From Mexico. It is in the collection of Messrs. Loddiges. Sepals and petals straw coloured. Lip at the base a rich Apricot red colour, other portions pale yellow. Each flower is four inches across.

VERONICA LINDLEYANA. DR. LINDLEY'S SPEEDWELL. Sent from New Zealand to the Edinburgh Botanic Garden, where it has bloomed in the greenhouse. It is an evergreen under shrub, producing numerous pendant spikes of white flowers, each spike being from four to six inches long. It is an elegant plant.

NOTICED IN BOTANICAL REGISTER, BUT NOT FIGURED.

IRIS STYLOSIA. Grows very extensively on the mountains of Corfu and Santa Maura, where, it is said, the mountains are in a blaze of blue from its flowers in January or February. Its leaves are about a quarter of an inch wide, spreading in a flat tuft, its large gaudy flowers supported, like those of the *Crocus*, by a long tube of five or six inches long. It has not yet bloomed in this country.

CYTINUS HYPOCISTUS. The Dean of Manchester discovered this very interesting plant growing from the underside of the roots of a *Cistus* towards the rocky summit of Santa Decca, 2300 feet high, in Corfu. The flower is pure white, and the rest of the plant intense scarlet. The plant rises about five inches high, and the flowers have some resemblance to short thick white Jasmine flowers.

LANKESTERIA PARVIFLORA, an *Acanthus*-like plant. A native of Sierra Leone, sent to this country by Mr. Whitfield. It is an evergreen stove plant, with yellow tube flowers changing to white.

DESCRIPTIVE CATALOGUE OF NEW CAMELLIAS.—In former Numbers of our Magazine we have given from time to time a descriptive list of the new Camellias of superior merit as they bloomed, we now insert those which have been sent out since our last list was published, in order to assist our readers in making selections of additional beauties which so numerous comprise this very handsome and noble race of plants. We are glad to know that, with the annual increased taste for the culture of flowers, the Camellia has had a considerable increase of admirers, and each recent year the demand for plants has greatly increased.

Acidalia, fine rose and white, beautiful form.

Adelaide, very deep red, petals imbricated, (petals laid regular over one another like tiles,) very regular; of first-rate excellence.

Admiral Nelson, very delicate peach colour; very fine form.

Adonidea, rose, with pale white veins; superior variety.

Agnesi, rose, very regularly imbricated.

Alba Cassoretti, pure white, fine imbricated.

Alba fenestrata, superb pure white, perfectly imbricated; first-rate excellence.

Alba illustrata, pure white, fine imbricated.

Alba Londonensis, or *Candida superba*, pure white, very superior form, imbricated.

Alba lucina, very regularly imbricate, a pure white, with some of the petals striped with carmine. The foliage is very thick and striking.

Alexina, pure white, with some pretty streaks of flesh colour. The flower has much the appearance of a ranunculus in form. Petals round, and beautifully imbricated; of first-rate excellence.

Alsatica, waxy rose, globe-shaped, very double, and superb.

Amabilis, of New York, finely imbricated, pale rose, with tints of white; very handsome.

Americana, delicate rose-striped, and blotched with carmine; ranunculus-formed; very neat.

Appollinea, splendid rose, very large, and imbricated.

Archinto, beautiful cream colour, imbricated; fine.

Atro-Violacea, red, changing to violet purple; large flower, very full centre; superb.

Alba Prima, very pure white; centre so double as to form a rising globe; most superb of all whites.

Aurora, rosy salmon, marbled with white; very pretty.

Baltimoreana, delicate white, striped with rose; very superb.

Barni d'Italie, beautiful rose, with white stripes; form of the old double white; very fine.

Baron Sigism de Pronay, white, tinged with delicate cream colour.

Baronne d'Udekem, salmon-bronze, with white shade up the centre of each petal; very perfectly imbricated; of first-rate excellence.

Bellina major, rich deep salmon, striped with white; very large and superior flower.

Belle Gioja, white, rose, and red, in shades, quite distinct; very double and handsome.

Belle Irene, fine rosy white, with yellowish stripes, imbricated; handsome.

Bazzoni d'Italie, brilliant coral colour, and pæony-formed.

Binneyi, cream coloured, beautifully striped with white, imbricated; very superb.

- Bostonia*, cherry coloured, very transparent; very large and superb.
Biflora, red, and in the centre two tufts of petals congregated; very handsome.
British Queen, pure white, with delicate rosy carmine stripes, imbricate, and sometimes so double as to be like a *pæony*-formed.
Brochii, handsome cherry colour, with white stripes, the form of the old double white; very superb.
Brooklynia, very like *Amabilis*; superb variety.
Brownii, very large, *pæony*-flowered; fine salmon red.
Burchelli, rose, with brown veins; very large and fine form.
Bruceana, very rich red, and an immense flower; very superb.
Brozzoni, bright cherry colour, imbricated; very superior.
Calderari, beautiful delicate rose; the outer petals round and imbricated; the centre ones numerous, and form a beautiful crown. It is a very large double flower.
Calyso, pure white, very large, very double; petals most numerous; being a very distinct flower.
Campo Molendina, cream colour, with white stripes, imbricated; very fine.
Canova, flame colour, at first changing to purple; very superior form.
Caroline Smith, rose, shaded with orange, and having a flame-coloured centre; very large and handsome form, imbricated.

(To be continued.)

NOTICE OF A BOTANICAL EXCURSION AT NAVARINO.—On the 28th of April, after a delightful voyage of six days, the weather beautiful and the sea calm, the *Beacon* entered the Bay of Navarino, whither we resorted for water, that article being so scarce at present in Malta, that ships are not allowed to water there. The Bay of Navarino is a semicircle, about three miles across at the mouth, the greater part of which is closed in by the rocky island of *Sphacteria*, in which Lord Byron has laid the scene of his *Corsair*. Near the southern extremity are the town and fort of Navarino, the former a small collection of dirty Greek houses; the northern termination is a high rock, on which are the ruins of the ancient *Pylus*. The southern half of the bay is bounded by high cliffs of limestone and tertiary clays; the northern by a low sandy shore, bordering an extensive marsh. In the distance are hills of considerable elevation, the sides of which seem to be covered with forests. A bare and rocky hill rises to the height of a thousand feet immediately behind the town. On landing, the first plant which strikes the eye of the visitor is the *Chrysanthemum coronarium*, the common Basket-flower of our gardens, which here exhibits its yellow blossoms in great profusion on every heap of rubbish. Ascending from the town to the heights, the blue flowers of *Psoralea bituminosa* first greeted us, and it was pleasant to look upon the abundance of green myrtle bushes. Thickly covering the limestone, and giving a brown hue to the vegetation, were bushes of various species of *Cistus*, with beautiful white or red flowers, and on the ground beneath them were their relations the *Helianthema* in great numbers. Some pretty species of *Echium*, *Linum hirsutum*, *Anemone coronaria*, and some pretty Bell-flowers were among the gayest of the lesser plants; and in grassy places there was a rich contrast between the bright red flowers of *Tetragolobus siliquosus* and the as bright blue ones of *Anagallis Monelli*, a variety of our common *Anagallis*. It is singular that the two plants I have just mentioned should so habitually change colours as we advance southwards; for the former in the north is almost always yellow, and the latter most frequently red. In the crevices of the rocks were little tufts of *Valantia muralis*, and a pretty species of *Asplenium*. A little white-flowered *Allium* was very abundant everywhere, and *Cerinthe aspera* was common. Among the most conspicuous bushes were *Philomis fruticosa* and *Pistacia lentiscus*; whilst in many places the ground was thickly covered with *Salvia officinalis* and *Poterium spinosum*, the last a curious plant which I had not seen before, and which is very abundant here. Besides these, were numerous Thistles, some *Ranunculi*, and a few Orchideous plants which were new to me, though possibly common species in the south. A visit to the marsh yielded nothing remarkable, nor did

the sandy shore display many plants peculiar to itself; but the short time our circumstances permitted me to remain on that side of the bay was not sufficient for making any observations. Among the sands I noticed quantities of *Polygonum maritimum*. An excursion to the rocky island of *Sphacteria* did not yield any additional species. We found it covered with bushes of *Cistus*, *Spartium*, *Pistacia*, *Phlomis*, and *Poterium*. *Matthiola incana* grew near the margin of the sea, with some *Statice* not in flower, and a yellow flowered plant which I do not as yet know the name of. Among the grasses, *Lagurus ovatus* and *Aegilops* were conspicuous. *Plantago lagopus* and *Psyllium* were not uncommon, and we noticed that *Plantago coronopus* was always very broad-leaved, so much so as at first sight to appear a different species. *Malcomia maritima* and *Kouigia maritima* were both very abundant, and *Sedum cepea* filled with its fleshy branches the crevices of the rocks. Generally speaking, the characteristic and prevalent plants around Navarino, those which gave a tone (if I may say so) to the vegetation, were *Cistus* and *Phlomis*. With the exception of the tertiary banks, which were limited in extent, they prevailed everywhere. Mr. Thompson did not forget to look for Algæ, but found them almost all species which are common in the south of England. Among the most abundant and prettiest was the *Padina pavonia*, which, studding the bottom of the rocky pools, had a very elegant appearance beneath the water. The dredge brought up, however, some more characteristic Mediterranean species. In a few fathoms' water, *Zostera* is extremely abundant here.—Since the above was written, we have left Navarino, and after another voyage of seven days arrived at Syra. Hitherto I have only made one short excursion into the island. The vegetation is apparently very different from that of the Morea. The shore is clothed with *Mesembryanthemum* and some beautiful species of *Statice*. Inland, the country is well cultivated, chiefly for Vines; there are scarcely any trees, a few Crabs and one or two Olives being the only trees I have yet seen. I hope in the course of the summer to transmit more satisfactory botanical notices to the Society, and as the ship is to visit some of the less known islands before going to Candia, I expect to forward some interesting results.—E. FORBES.
Read before the Botanic Society of Edinburgh.

TO TAKE IMPRESSIONS FROM LEAVES.—Take green leaves of trees and flowers, and lay them between the leaves of a book till they are dry. Then mix some lamp-black with drying oil, and make a small dabber of some cotton wrapped up in a piece of small leather. Lay the dried leaf flat upon a table, and dab it very gently with the mixture till the veins of the leaf are covered; being careful not to dab it so hard as to force the colour between the veins. Moisten a piece of paper, or what is better, lay a piece of paper between some sheets of moistened paper for several hours, and lay this over the leaf that has been blackened with the liquid, press it gently down, and then lay a heavy weight upon it and press it down very hard. By this means you obtain a very beautiful impression of a leaf with all its veins; even the minutest will be represented in a more perfect manner than they could be drawn with the greatest care. Impressions thus taken may also be coloured in the same manner as prints.

ON GRASS SEEDS FOR A GRASS PLOT.—Having a grass plot of half an acre in preparation, I am desirous of knowing what are the best kinds of grass seeds to sow upon it, and the proportions of each, an early answer will oblige.

Tynemouth.

LOUISA.

In a former number of the Cabinet a list was given, which we refer our correspondent to. The following has been stated to be an excellent assortment:—*Poa nemoralis*, 1 lb. *Poa nemoralis sempervirens*, 1 lb. *Festuca duriuscula*, 2 lbs. *Festuca tenuifolia*, 1½ lb. *Poa trivialis*, 1 lb. *Lolium perenne tenue*, 12 lbs. *Trifolium repens*, 4 lbs. *Trifolium minus*, 1 lb. *Cynosurus cristatus*, 2 lbs.

HYACINTHS, CROCUSES, &c.—In reply in Lucy, we say, don't water them until they begin to push root. If the soil be just moist, it will do.

ON CARNATIONS AND PICOTÉES.—Louisa requested a list of a few of the best Carnations and Picotées. I have sent a list of the best I have seen at the principal shows this season. J. WOOD.

CARNATIONS. *Scarlet Bizarres*: Twitchett's Don John, Martin's Splendid, Ely's Lord Pollington, Headley's William Cobbett, Rainforth's Game Boy, and Strong's Duke of York. *Crimson Bizarres*: Puxley's Prince Albert, Ely's Lord Milton, Cartwright's Rainbow, Mansley's Robert Burns, Ely's Duke of Bedford, Holmes' Count Paulini. *Purple Flakes*: Mansley's Beauty of Woodhouse, Pollard's First-rate, Ely's John Wright, Nix's Lady Chetwynde. *Scarlet Flakes*: Jones' Brilliant, Chadwick's Brilliant, Weldon's Earl of Lichfield, Ivan's Marchioness of Westminster. *Rose Flakes*: Brook's Flora's Garland, Wilson's Harriet, Lowe's Marchioness of Westminster, Ely's Lady Ely.

PICOTÉES. *Red-edged, heavy*: Sharp's Duke of Wellington, Barraud's Cornelius, Wildman's Isabella, Brinkler's Master-piece. *Light-edged*: Sharp's Gem and Criterion, Kirtland's Duke of Wellington, Burroughes' Mrs. Bevan. *Purple-edged, heavy*: Mansley's Nulli Secundus, Sharp's Invincible, Dickson's Trip to Cambridge, Luff's Seedling. *Purple-edged, light*: John's Prince Albert, Brinklow's Purple Perfection, Burroughes' Lady Douro, Gidden's Vespasian. *Rose, or Scarlet-edged*: Burroughes' Miss Osborne, Willmer's Princess Royal, Barnard's Mrs. Barnard, Green's Queen Victoria, Barraud's Bride, Twitchett's Fair Rosamond, Wilson's Miss Fanny Irby, and Kirtland's Squire Annesley.

THE DEODAR, OR HIMALAYAN CEDAR (*Cedrus Deodara*).—Its botanical range extends from 7000 to 12,000 feet above the level of the sea; and, in its most congenial locality, attains a great height, and a circumference of above thirty feet. When young it closely resembles the real Cedar, but never sends forth spreading branches. The cone resembles that of the Cedar, and is preceded by a catkin of a bright yellow colour; so that the tree, when in full blossom, appears covered with a rich mantle of gold. These catkins are loaded with a golden dust, which the wind shakes from the branches in such quantities that the ground, for a considerable distance about the tree, becomes as it were sheeted with gold. So durable is its timber that some used in the building of one of the wooden bridges over the Jailum was found little decayed after exposure to the weather for above 400 years.—*Thornton's Gazetteer of India*.

OXALIS BOWEIANA.—Early the last spring I had two dozen plants of Oxalis Boweiana, and wanting something pretty to fill up a flower-bed in a warm situation in the flower garden, I resolved to make a trial with them. I turned them out as entire as possible the first week in May. They have flourished amazingly and are now (September 3) a vast profusion of bloom. The lovely rose-coloured blossoms producing a fine effect. LOUISA.

Floral Operations for January.

IN THE GREENHOUSE.—Keep everything clean and in good order, that alone is a recommendation to anybody; at this season few plants are in flower, and therefore filth and confusion will be more perceptible. This department should have good attendance during this month, and place every family of plants together; they grow best so classed, because the same temperature and attention usually suits them all.

The herbaceous kinds of plants will require occasional waterings, but less frequent and in less quantities than the woody kinds. Succulents, as Aloes, Sedums, &c., should be watered very sparingly, and only when the soil is very dry. When water is given it should be as much as will moisten all the soil, where water is only given to moisten the soil an inch or two at the top and the other kept quite dry, the result is generally certain, namely, the death of the plant. The plan to be attended to is, water only when necessary, but a full supply when it is done, and water at the early part of the day so damp may be dried up before evening. Air should be admitted at all times when the weather is favourable, or the plants cannot be kept in a healthy state. When the weather

is damp, foggy, &c., do not give air, then let a dry air only be admitted. If any of the Oranges, Lemons, &c., have naked or irregular heads towards the end of the month, if fine mild weather occur, begin to reclaim them to some uniformity by shortening the branches and head shoots; by this attention they will break out new shoots upon the old wood, and form a regular head; be repotted in rich compost in April, reducing the old ball of earth carefully, and replacing the new soil. After shifting, it would be of great use to the plants if the convenience of a glass case could be had in which to make a dung-bed that the pots might be plunged in; this would cause the plants to shoot vigorously, both at the roots and tops. Repot *Amaryllis*, &c. Tender and small kinds of plants should frequently be examined, to have the surface of soil loosened, decayed leaves taken away; or if a portion of a branch be decaying, cut it off immediately, or the injury may extend to the entire plant and destroy it. *Gloxinias*, *Achimenes*, &c., now beginning to push, should be potted singly.

IN THE GARDEN.—*Auriculas* should, at the end of the month, be top-dressed, taking off old soil an inch deep, and replacing it with new; give air freely when dry weather.

Bulbs, as *Hyacinths*, &c., grown in water-glasses, require to be placed in an airy and light situation when coming into bloom. The water will require to be changed every three or four days. The flower stem may be supported by splitting a stick at the bottom into four portions, so as it will fit tight round the edge of the glass at the top.

The seed of *Calceolarias* should be sown at the end of the month, and be placed in a hot-bed frame, also cuttings or slips be struck, as they take root freely now. Sow *Pentstemon*. Seed does best sown now in pots.

Cuttings of *Salvias*, *Fuchsias*, *Heliotropes*, *Geraniums*, &c., desired for planting out in borders or beds during spring and summer, should be struck in moist heat at the end of the month, in order to get the plants tolerably strong by May, the season of planting out.

Dahlias.—*Dahlia* roots, where great increase is desired, should now be potted, or partly plunged into a little old tan in the stove, or a frame, to forward them for planting out in May. As shoots push, take them off when four or five inches long, and strike them in moist heat. Seed, sow at the end of month.

Herbaceous Perennials, **Biennials**, &c., may be divided about the end of the month, and planted out where required.

Hydrangeas.—Cuttings of the end of the last year's wood, that possess plump buds at their ends, should now be struck in moist heat; plant one cutting in a small pot (60's).

Mignonette, to bloom early in boxes or pots, or to turn out in the open borders, should now be sown.

Rose Trees, **Lilacs**, **Pinks**, **Hyacinths**, **Polyanthuses**, **Narcissus**, **Honeysuckles**, **Persian Lilacs**, **Primroses**, **Rhodoras**, **Persian Irises**, **Sweet Violets**, **Cinerarias**, **Hepaticas**, **Aconites**, **Jasmines**, **Azaleas**, **Lily of the Valley**, **Correas**, **Gardenias**, **Cyclamens**, &c., should regularly be brought in for forcing.

Tender Annuals.—Some of the kinds, as *Cockscombs*, *Amaranthuses*, &c., for adorning the greenhouse in summer, should be sown by the end of the month.

Ten-week Stocks, **Russian and Prussian Stocks**, &c., to bloom early, should be sown at the end of the month in pots, placed in a hot-bed frame, or be sown upon a slight hot-bed, also some other of the tender kinds, to prepare them strong for early summer blooming.

Protect the stems of tender plants with *Furze* branches, dry leaves, *Fern*, &c. The stems of tender climbing *Roses* are screened by such precaution.

Chrysanthemums.—The heads of decayed flowers should be dried, and saved for the seed, which probably they possess, and be sown in spring and raised in a hot-bed frame.

Protect beds of *Tulips*, *Hyacinths*, &c., *Carnations*, *Polyanthuses*, *Auriculas*, *Pinks*, *Pansies*, &c., with *Furze*, *Fir* branches, dry leaves, &c., or, if in pots, in frames.

Camellias, if not regularly supplied with soft, not too cold, water, the buds will drop; if too much, frequently that will cause them to drop too.

UNIV. OF
CALIFORNIA



1, *HINDSIA LONGIFLORA ALBA*. 2, *EVOLVULUS PURPUREO-CÆRULEUS*.

Floricultural cabinet.

THE
FLORICULTURAL CABINET,
FEBRUARY 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

1. HINDSIA VIOLACEA ALBA.

IN our Number for September, 1844, we figured the handsome species *H. violacea*, violet coloured flowers, and since that time many of our readers have seen that lovely species in bloom exhibited at the metropolitan and other first rate shows. Recently we saw the plant we now figure in fine bloom at Messrs. Hendersons, Pine Apple Nursery. The plant was cultivated in the stove, but we think it will also flourish in a warm greenhouse. It appears to be more vigorous than the *H. violacea*. The flowers are produced in fine, corymbose heads, a most lovely white, longer in the tube than the other kind named, and very highly fragrant. It deserves to be in every collection.

2. EVOLVULUS PURPUREO—CÆRULEUS. PURPLE-BLUE FLOWERED.

Amongst the many novelties we found in the fine collection of plants in the Royal Gardens at Kew during the past summer, is the pretty lovely flowering plant now figured. It is a native of Jamaica, and requires to be grown in a plant stove or warm greenhouse. It is what is usually termed half shrubby, the shoots grow about half a yard high, and it blooms very freely during the summer. It deserves to be grown wherever it is practicable, being easy of culture, and remarkably showy and ornamental.

ARTICLE II.

THE METROPOLITAN FLORAL EXHIBITIONS.

ROYAL BOTANIC SOCIETY, *Regent's Park, July 2, 1845.* 1

THIS was the last exhibition of the Society for the season, and, we must briefly remark, it was an exceedingly good one, deficiency of space necessitates a very abstracted copy from our notes, and that only of the most useful portion, therefore these remarks will, generally speaking, convey but an inadequate conception of the brilliancy of the exhibition.

In Class I. we shall confine our notice to the

NEW OR RARE PLANTS

In bloom.

The first prize amongst which was awarded to Messrs. Henderson, Nurserymen, Edgeware Road, for a well managed plant of *Clerodendron paniculatum*; having a spike of bloom about two feet and a half long. The magnificent foliage and distinct bright orange blossoms, certainly render this kind one of the finest in the genera. The second prize was given to Mr. Green, gardener to Sir K. Antrobus, Bart., Cheam, for *Tremandria Hugellii* (*Tetratheca hirsuta*), a neat greenhouse shrubby plant, from the Swan River Colony, and of which we published a representation in our Number for October last. The third prize was obtained by Messrs. Veitch, of Exeter, with *Hoya trinervis*, a species inferior to that old favourite *H. carnosa*. Extra prizes were awarded to Messrs. Veitch for *Pterodiscus speciosus*, a figure and notice of which plant we gave in Vol. XII., No. 142; to Mr. Hunt, gardener to Miss Trail, for a species of *Gesneria* from Mexico, a plant of tall upright growth, and having woolly yellow coloured flowers. To Mr. Taylor, gardener to J. Costar, Esq., Streatham, for *Chænos-toma polyantha*, a very pretty plant, well adapted for bedding out, and of which a figure accompanied our Number in October last. To Messrs. Henderson for a fancy variety of *Pelargonium*, named *Anias*. This plant was perhaps more attractive than any other at the exhibition. Its habit is dwarf and remarkably compact, resembling that of the variety named "Queen Victoria," and to which it is quite equal in profusion of bloom; the flowers are, however, much more ornamental, being of a delicate bluish white in the interior, surrounded with a broad and almost unbroken ring of beautiful rosy-purple, which is again surrounded on the margin of the petals with a belt of white. The plant altogether presents the appearance of a very lovely nosegay, and is sure to merit the approbation of all who grow it. We are not aware with whom it originated, but believe plants will be offered for sale in the spring ensuing. Messrs. Henderson also received another extra prize for *Oxybaphus longiflorus*, a nyctaginaceous shrub, with white flowers. An extra prize was also given to Mr. Barnes, gardener to G. W. Norman, Esq., Bromley, for *Blandfordia nobilis*.

In addition to these, and to which no awards was made, we noticed from Messrs. Henderson, *Gloxinia cartoniana*, a new species of *Angelonia*, and a well grown plant of *Scutellaria splendens*, having several spikes of its bright scarlet flowers.

Not in bloom, but remarkable for beauty in foliage or growth.

The first prize in this section was given to Mr. Mylam, gardener to S. Rucker, Esq., Wandsworth, for an extraordinary plant of *Nepenthes ampullacea*, with

several of its curious spotted and fringed pitchers ; the plant was supported by an upright cylinder trellis, and was seven or eight feet high. The second prize, for *Jacaranda Clansoniana*, was given to Messrs. Hendeison. Mr. Mylam obtained the third prize for a well-cultivated plant of *Nepenthes distillatoria*. And an extra prize was given to Messrs Veitch, for *Phyllocladus asplenifolius*.

CLASS II.

This comprises all collections exhibited in natural groups, excepting "Florists' flowers." The numerous and general elegance of the varieties of Cape heaths, at all times present an eminent object to the competitor in this class, and the assemblage of them on this occasion was therefore, as usual, extensive and excellent. The collections of Orchidaceous plants too were very good, although not numerous ; and amongst the Cacti were a number of curious species of *Mammillaria*, which attracted a good deal of notice.

CLASS III.

Conducts us to the most distinguished [portion of the show, the "florists' flowers," and here we intend to transcribe our notes more entire. Of the kinds grown in pots we will begin with the—

PELARGONIUMS.

By far the finest grown plants of which were exhibited by Messrs. Lucombe, Pince, and Co., of Exeter, and twenty-four such plants together we unhesitatingly assert we never saw before. The mere value of an award of the highest prize for these collections, could but be inadequate enough ; the mere cost of bringing the plants about 200 miles to the show was, we understood, 1*l.* each ; the object of the spirited growers, however, was not a lucrative one, and they received their reward by beating the London growers upon their own ground, and that is indeed a point of ambition not readily to be attained, but in this case very clearly done. The kinds were, Othello, Fairy Queen, Admiral, Black Prince, Stella, Dido, Leonora, Zanzummim, Stromboli, Cleopatra, Enchantress, and Meteor ; each of these plants were about three feet high by four feet in diameter, and full of large heads of bloom.

In the Amateurs' division for 12 plants,

Mr. Staines, of Paddington, received the first prize ; the varieties were *Superba*, *Madeline*, *Duke of Cornwall*, *Hebe*, *Rowena*, *Enchantress*, *Sunbeam*, *Achilles*, *Cedric*, *Fair Maid of Leyton*, *Grand Turk*, and *Duke of Wellington*.

In the collections of 12 new varieties amongst Amateurs,

The first belonged to Mr. E. Beck, of Isleworth, and contained Lord J. Russell, Zenobia, Sultana, Sunset, Desdemona, Marc Antony, Bellona, Isabella, Rosy Circle, Margaret, Belinda, and Favourite.

Mr. Cock, of Chiswick, obtained the second prize; his varieties were Countess of Morley, Queen Philippa, Rosetta, Symmetry, Cinderella, Diadem, Sarah, Milo, Plantagenet, Emma, Cyrus Superb, and Erectum.

The third prize was obtained by Mr. Stains, of Middlesex Place, New Road, who had La Polka, Clio, Sunbeam, Amy Robsart, Andromache, Comet, and Emperor Nicholas, all varieties raised by Mr. Stains; and Hero, Lord Ebrington, Sir R. Peel, Aurora, and Archbishop of Canterbury.

Nurserymen.

The first prize was given to Mr. Gaines, Battersea, who had Lady Sale, Camilla, Hebe, Witch, Prince of Wales, Caroline Douglas, Alba grandiflora, Trafalgar, Airanama, Rising Sun, Exoniensis, and Arabian.

The second prize was obtained by Messrs. Lucombe, Pince, and Co., of Exeter, with Othello, Superb, Meteor, Martha, Admiral, Duke of Cornwall, Desdemona, Unique, Leonora, Zanzummim, Pluto, and Fairy Queen.

Messrs. Henderson obtained the third prize with Black Prince, Ackbar, Lord Ebrington, Hesperis, Lady Mansell, Lady Farnham, Wonder of the West, Saxon King, Symmetry, Lady Vernon, Rising Sun, and Marchioness of Lothian.

ROSES.

20 varieties, open to all.

The first prize was deservedly obtained by Messrs. Lane and Son, of Berkhamstead, for very excellent managed plants of Illustre Beaute, Madame Plantier, Anjou, Gracilis, Barbot, Yellow China, Flora M'Iver, Duchess of Sutherland, Acidalie, Diana Vernon, Eugene Beauharnais, Charles Duval, Felicite, Persian Yellow, La Pactole, General Allard, Bizarre Marbrée, Mieliez, Boule de Nautieul, and Celina, a dark moss.

To Mr. E. Beck, of Isleworth, was given the second prize; his kinds were General Allard, Duchess of Sutherland, Bourbon Queen, Robin Hood, Souvenir de 30 Mai, Charles Duval, Armosa, Great Western, Darius, Fulgens, Coupe de Hebe, William Jesse, Contard, Prudence Ræser, Hamon, Emperor Probus, Augustine Marget, D'Agnessa, Comte de Paris, and Yellow China.

The third prize was given to Messrs. Paul and Son, of Cheshunt, who showed Augustine Marget, Princesse Marie, Celimene, Moire, Phœnix, Madame Neard, Taglioui, Fulgorie, Clara Silvain, Madame Despres, Belle Marie, Crimson Madame Despres, Charles Duval, Pauline Plantier, Mrs. Elliot, Auberon, Miss Glegg, a pretty white; Great Western, Duchess of Sutherland, and Madame Beureau.

An extra prize was given to Mr. Laing, of Twickenham; these varieties were Bourbon Queen, Triomphe de Gand, Eugene Beauharnais, Bon Silene, Princess de Joinville, Madame Despres, Mrs. Bosanquet, Duchess of Buccleugh, Belle Marie, Le Baron Louis, Cramoise superieur, Brennus, Angelique, Armosa, Cels Multiflora, Nouvelle Bourbon, General Soyez, Safrano, Julie Mansais, and Amie Vibert.

CALCEOLARIAS.

A first prize was awarded to Mr. Gaines, whose collection was the only one produced; it comprised compact dwarf specimens of Ada, Flash, Prince Alfred, Lady Ann Charteris, Tigrina, and Kinghornii.

FUCHSIAS.

12 varieties, open to all.

Equal first prizes were awarded to Mr. Robinson, gardener to James Simpson, Esq., Pimlico, and Mr. Gaines, Battersea. The collection belonging to the former comprised *Prima Donna* (Harrison's), *Lowryii*, *Vesta*, *Chandlerii*, *Exoniensis*, *Gem* (Harrison's), *Formosa elegans*, *Hope* (Barnes's), *Magnet*, *Robinsonii*, *Epsii*, *Magnet* and *Coronet*. Mr. Gaines showed, *Duchess of Sutherland* (Gaines's), *Hector*, *Zenobia* (Harrison's), *Expansa*, *Decora*, *Gigantea*, *Fosterii*, *Cassandra*, *Pearl* (Harrison's), *Britannia*, and *Reflexa*.

An extra prize was given to Mr. Ottey, of Peckham, for *Marginata*, *Coronet*, *Brockmannii*, *Gem*, *Chauverii*, *Kppsii*, *Defiance*, *Lowryii*, *Fulgens multiflora*, *Sir H. Pottinger*, *Paragon*, and *Britannia*.

CLASS IV.

CUT FLOWERS.

In this class the exhibition of *Roses* and *Pinks* was very extensive, and some of the collections appeared unusually fine; our limited space, however, will only permit us to enumerate a few of the best flowers in the large stands of *Roses*.

In the collections of 100 varieties, Messrs. Lane and Son obtained the first prize; amongst these we noticed extremely fine specimens of *Bougere*, *Strombio*, *Devoniensis*, *Chenedolle*, *Sophia de Marsilly*, *Princesse de Lamballe*, *Bizarre Marbre*, *Egle*, *Cambronne*, *Blairii* No. 2, *La Grandeur*, *Prince Albert* (Hooker's), *Baronne*, *Provost*, *Duchess of Sutherland*, and *Emma Dampiere*.

Mr. Francis, of Hertford, obtained the second prize; we remarked fine blooms of *Blanchfleur*, *Octavie*, *Vandael*, *Fanny Parisot*, *Angela*, *Coup d'Hebe*, and *Great Western*.

The third prize was awarded to Mr. Rivers, of Sawbridgeworth; in whose collection the best blooms were *Victor Hugo*, *Cambronne*, *Chenedolle*, *La Vesuve*, *Madame Rameau*, *Felicite*, *Jenny*, *Great Western*, *Rose Devigne*, *Emerance*, *Cramoise picee*, *Charles Foncequier*, *La Ville de Bruxelles*, *Duke of Devonshire*, *Paul Perais*, *Triumph d'Angers*, *Sylvain*, *Amandau*, *Duchess of Bucleugh*, and *Decandolle*.

Extra prizes were given to Mr. Cole, of Bath, Mr. Laing, of Twickenham, and Mr. Paul, of Cheshunt. The best blooms in these three stands were *Sandeur*, *Panache*, *Magna Rosea*, *Safrano*, *Nina*, *Niphotos*, *Coup d'Hebe*, *Colombrienne*, *Heureuse Surprise*, *Duc de Trevis*, *Boule de Nantieul*, *Fanny Bias*, *La Volupte*, *Grandissima*, *Enchantress*, *Julie d'Etanges*, *Triumph de Guerin*, and *Madame Campan*.

In the collections of 50 varieties, open to Amateurs only,

Mr. Collison, of Bath, was first; Mr. Milne, gardener to G. Chauncey, Esq., of Little Morden, Herts, was second; and Mr. Betteridge, of Abingdon, third. Besides which several extra prizes were awarded.

In collections of 25 new and fine varieties,

To Mr. Paul was given the first prize; the kinds were *Galien*, *La Boquetiere*, *La Reine*, *Clementine Siringe*, *Baronne*, *Provost*, *Laneii*, *Marquise Boucella*, *Dr. Marx*; *Lady Canning*, *Souchet*, *Cornice de Seine et Marne*, *Princess Clementine*, *Du petit Thouars*, *George Cuvier*; *Ouillet Parfait*, *Josephine Oudin*, *Colonel Coombes*, *Persian Yellow*, *Unique de Provence*, *Alice Le Roi*, *Niphotos*, *Nisida*, *Madame Roussel*, *Richelieu Duval*, and *Belle de St. Cyr*.

The second prize was obtained by Messrs. Lane, whose varieties were *Viscomte de Schymacker*, *Duke of Tuscany*, *Cupidon*, *Souchet*, *Hercules*

Oberlin, Belle Moconnaise, Comte de Murrinais, Solfatare, Comte de Rambuteau, Souchet, Bourbon, Charles Soucliet, Madame Souchet, La Grenadier, Georgius Cuvier, Queen Elizabeth, Persian Yellow, Yolande de Arragon, Queen, Duc de Chartres, Laurence de Montmorency, Countess Plater, Sextus Popinus, Marie de Champlonis, and Beaufremont.

Mr. Rivers gained the third prize with Madame Zoutman, Deuil de Dumont d'Urville, La Esmerelda, Madame Bréon, Helene Mauget, Eclair de Jupiter, Dombrouske, Comte de Paris, Pourpre de Tyre, Marguerite d'Anjou, Safrano, Elizabeth Plantier, Sextus Pompeius, Josephine Malton, La Reine, very fine; Moire, Imperatrice Josephine, Marie de Medicis, Solfaterre, Ebene, Souvenir de la Malmaison, Devoniensis, Belle Menes, and Persian Yellow Briar.

Mr. Francis obtained the fourth prize with Mrs. Elliott, Madame Laffay, Duc de Nemours, Madame Damene, Augustine Mouchelot, Earl Talbot, Dr. Marjolin, Riversii, Lady Alice Peel, Baronne Prevost, Duchess of Sutherland, William Jesse, Unique de Provence, Lamarque à Cœur; Hooker's Prince Albert, Flora M'Iver, Chenedole, Safrano, Eliza Sauvage, Eugene, Adam, Triomphe de Laquere, Coupe d'Hebe, and Great Western.

In addition to the above, several other collections were shown.

PINKS.

24 distinct varieties.

Mr. Turner of Chalvey, obtained the first prize, with Omega, Tower, Prince of Wales, Mary Ann, Weedon's Victoria, Masterpiece (Turner's), Model, Melona, Napoleon, Majestic, Little Wonder, Hardstone's Prince Albert, Eclipse, Alpha, Defiance, President, Rosanna, Miss Blackstone, Willmer's Victoria, Beauty, Warden, Enchantress, Duchess of Kent, and Gem.

Messrs. Norman, of Woolwich, obtained the second prize, with Wallis's Unique, Willmer's Sarah, Cousins's Village Maid and Little Wonder, Church's Wonder, Hodges' No. 166, Warden, Garrett's Queen of Roses, Headley's Duke of Northumberland, Willmer's Duchess of Kent, Weedon's Queen Victoria, Lady Flora Hastings, Brown's Eclipse, Alpha, Jelf's Marianne, Gem, Butler's Sedling, Kirtland's Gay Lad, Dr. Daubeney, Cousins's Paragon, Willmer's Queen Victoria, Omega, Norman's 1844, and President.

The third prize was awarded to Mr. Ward, of Woolwich, for Omega, Gay Lad, Earl of Uxbridge, Unique, Mars, Weedon's Queen Victoria, Garrett's Prince Albert, a very good light rose; Matilda, Bunkell's Prince Albert, a good flower, in the way of his Queen Victoria; Alpha, Hardstone's Queen Victoria, President, Ward's Great Britain, one of the best; Brown's Eclipse, Willmer's Duchess of Kent, Huntsman, a good dark laced flower; Hart's Prince Albert, Warden, Melona, Duke of Northumberland, Majestic, Mary Ann, Defiance, and Henry Creed.

An extra prize was given to Mr. Willmer, of Sunbury, for Omega, Attila, Bunkell's Elizabeth, Prince Albert, Willmer's Prince of Wales, Church's Rosanna, Willmer's Sarah, Melona, Parker's Queen Victoria, Bexley Hero, Church's Navigator, Hardstone's Queen Victoria, Gay Lad, Brown's Eclipse, Alpha, Brown's Model, Duchess of Cornwall, Weedon's Queen Victoria, Little Wonder, Duke of York, Jelf's Mary Ann, Defiance, and Willmer's Queen Victoria.

An extra prize was also awarded to Messrs. Brown and Attwell, of Uxbridge, in whose stand we noticed fine flowers of Omega, Kentish Wonder, Rosanna, Gem, Gay Lad, and Bunkell's Queen Victoria.

Besides the above, several other stands were shown.

VERBENAS.

24 distinct varieties.

The first prize was given to Mr. Smith, of Hornsey, who had Celestina, Delicata, Superba, Messenger, Duchess of Sutherland, Excelsa, Hebe, Beauty,

Rose d'Amour, Lilac perfection, Atro-purpurea, Princess Royal, Queen of England, The Giant, Poultii, Miss Watson, Beauty Supreme, Vesta, Beauty, Garland, Enchantress, Boule de feu, Defiance, and Emma.

The second prize was given to Mr. C. Turner, of Chalvey. The varieties were:—Enchantress, Lilac perfection, Favourite, Speciosa, Beauty Supreme, Delicata, Surprise, Blue Queen, Lovely Rambler, Emma, Defiance, Rosea multiflora, Excelsa, Princess Alice, Atro-sanguinea, White's Perfection, Giant, Rose d'Amour, Garland, Array, Ingramii, Messenger, Triumphant, and Princess Royal.

Several other collections were also shown, but in which we did not notice anything different to the preceding.

CLASS V.

SEEDLINGS.

PELARGONIUMS OF 1844.

No prizes were awarded, but a certificate of merit was given to Mr. E. Beck, for *Prairie Bird*, a compact flower, but rather too rough on the margin, the colour is lower petals, blush; upper ones, dark crimson belted with blush. Several other varieties were shown, the best amongst which, however, was *Miss Halford* (Gaines) and *Desdemona* (Beck), which have already been described in our pages.

PELARGONIUMS OF 1845.

Mr. Whomes, gardener to E. Foster, Esq., of Clewer, who has long been famous for having raised many of the best kinds grown; obtained the first and only prize awarded in this class, for *Paragon*, lower petals, bright rosy-purple; upper maroon, belted with crimson; a very even, distinct, well-shaped flower, and is likely to be an improvement on *Sir R. Peel*. Several certificates of merit were awarded by the judges, and of which Mr. Whomes obtained three for the following very deserving kinds; viz.: *Satellite*, lower petals, bright-rosy scarlet, with a small blotch in each, and terminating in white at the interior part; upper petals, deep maroon, belted with light crimson: *Painted Lady*, lower petals, lively ruby-pink, having a small spot of deeper colour in each, and terminating in the centre with pure white; upper very dark maroon, surrounded with crimson red, and belted with pink on the margin; a distinct and very promising flower: *Aspasia*, lower petals, clear light crimson; upper ones maroon, belted with red, a pretty and novel flower, but rather too angular. Mr. Catleugh, of Chelsea, received two certificates for *Salomé* and *Gertrude*. The former has slightly feathered lower petals, of a pretty purple colour, and the upper ones being maroon, with a crimson belt, it is, however, somewhat angular in shape. *Gertrude* has light pink lower petals, white in the centre, and upper ones crimson maroon surrounded with pink. This appears to be a good kind, though we liked better a similar coloured flower named *Euclid*, to which no prize was awarded; it possessed a more even, smooth surface, and was larger without being a loose flower. Amongst the other unsuccessful sorts, the only one deserving notice was Mr. Kinghorn's *Robert Burns*, a clear ruby-purple coloured flower, having a large maroon blotch in the upper petals, and of a very good shape.

CALCEOLARIAS.

Mr. Standish, of Bagshot, obtained first prizes for *Matchless* and *Trumpeter*,—the former, an excellent variety, cream colour, with rosy-purple chequered blotches; the latter yellow, with coarse dark blotches. *Orinda*, from Mr. Standish,

was considered first-rate, but not being entered for competition, received only a certificate: it is cream-coloured, with rosy spots. Mr. Gaines obtained a second prize with Alpha, bright yellow, with light crimson marks.

In addition to these numerous others were shown, all in the old spotted style, but of which we already possess so many that it is difficult to produce a really distinct variety; through the aid of Mr. Plant, however, we hope soon to see the striped flowers introduced.

FUCHSIAS.

Many of these were exhibited, but the only good and distinct one was shown by Mr. Hally of Blackheath, named *Candidissima*. It is a very pretty flower, rather larger than *Venus victrix*, and appears to be a free bloomer, the tube and sepals are white and the corolla is light crimson. No award was made.

PINKS.

Extra prizes were given to Mr. Ward, of Woolwich, for Great Britain, and to Mr. Turner, of Chalvey, for Masterpiece. Each of these flowers we have described and published figures of in the *CABINET*. Mr. Turner also had *Beauty*, a much better flower than many which are generally shown, Mr. Henbrey, of Croydon, showed *Rubens*, a rich crimson laced flower of general good quality.

In addition to these seedlings we have now enumerated, many others of *Verbenas*, *Petunias*, *Pansies*, *Cinerarias*, &c. were displayed, and of some of the best we made notes, but they do not appear deserving mention.

ARTICLE III.

OBSERVATIONS ON THE ARRANGEMENT OF PLANTING ORNAMENTAL TREES AND SHRUBS, &c.

BY AN AMATEUR LANDSCAPE GARDENER.

THE present season of the year being that in which the laying out and planting of pleasure gardens is usually carried on, and as it is an operation of considerable gardening importance, not merely for the present, but for the future too, to do it as effectually as circumstances admit of, both in forming the ground, and arranging the trees, shrubs, and flowers, I am induced, as a constant practitioner, to forward some hints in furtherance of so desirable an object.

The style of this sort of a pleasure garden very much depends on the extent, situation, and character of the ground, that I can only, in this place, offer more than general remarks.

The plantation must be carefully formed to suit the building it is to shelter and ornament. As the villa and ornamental cottage form the largest portion at present of edifices that claim a pleasure garden, I shall therefore confine my observations to grounds attached to these dwellings. As such houses are generally built on situations too flat to admit of much variety, the first study should be to find how and where we can break the level by throwing up elevations, so as to answer the double purpose of obscuring private walks, and screening other parts from the wind.

But it requires considerable ingenuity to hinder these elevations from having the appearance of artificial ones, which would make them as ridiculous as a circular lake on a lawn. As the removal of earth is attended by the expense of labour only, this is one of the most advantageous manners of laying out money in the formation of a shrubbery, since five feet lowered in one part, and raised above, will give a slope or bank about double that height. A considerable effect will thus be obtained; for in a flat country a small elevation gives a great command of prospect, and adds itself considerably to the beauty of a landscape, especially when planted with lofty growing trees, as larches and pines. An undulating appearance may be given to level ground by judiciously planting the trees and shrubs.

The too general error of planting close to the dwelling-house should be avoided; for although such a plantation may have a pretty appearance in the infant state, a few years' growth will cause it to cast a gloom over the apartments, and keep off a free circulation of air. Besides, as plants give out a noxious air in the evening, it should be more particularly guarded against in this moist atmosphere.

The training of trees to the walls of houses is also objectionable, as they cause damp, harbour insects, and collect leaves and other substances that become offensive by their putrefaction, whilst the view of the plants themselves cannot be enjoyed from the windows. However, all offices, out-houses, and unsightly buildings, may be covered with vines, and ornamental climbers.

However small the plantation be, those abrupt terminations which mark the limits must not be permitted. The shrubbery should harmonize with the surrounding scenery, and appear to blend with it into one.

The plants which stand nearest the dwelling must be of the dwarf

kind, and of the most beautiful sorts. The trees, also, should be selected so as to correspond with the style of building. The villa shows best when surrounded by light ornamental trees, such as the birch, the acacia, the sumach, the laburnum, and cypress; and a clump of poplars may sometimes be introduced, so as to break the line with good effect. The cottage may have more rustic trees; while to the castle belong the oak, the ash, and the pine: the mansion admits of all at their proper distance, and in suitable situations.

One of the most important things in planting is to attend particularly to the shades of green, especially where the view from the house or lawn catches the trees. Flowers, which Pliny calls the joys of the trees, continue but for a short period in comparison to the duration of foliage; therefore the picture should be formed by judiciously contrasting the greens. Even the effect of perspective may be considerably increased by the proper arrangement of hues. Trees whose leaves are grey or bluish tint, when seen over or between shrubs of a yellow or bright green, seem to be thrown into the distance. Trees with small and tremulous leaves should wave over or before those of broad or fixed foliage. The light and elegant acacia has a more beautiful effect when its branches float over the firm and dark holly or bay-tree. In some situations the bare trunk of trees may be shown; in some it should be concealed by evergreens and creepers. Vines, also, may be suffered to embrace it, and form natural festoons where the extent of ground will allow of wilderness scenery. In all situations nature may be assisted, but should never be deformed by clipping; for ingenuity ought to be employed to disguise art, not to expose it.

The beauty of plants cannot be displayed when they are too much crowded; as they are then drawn up into unnatural shapes. Therefore the oftener open spaces can be admitted, the more will the shrubs exhibit themselves to advantage, and the more cheerful will be the walk; for it becomes insipid and gloomy when confined for any distance. The winds also claim our attention. Care must be taken so to arrange the position of the trees, that only those gales which are most congenial to the growth of particular plants should be allowed access to them.

The undulating appearance of a plantation will be considerably assisted by a gradual progression from the lowest shrub to the highest

tree, and again, from the highest to the lowest. But as some shrubs will not flourish under certain trees, their respective situations demand consideration. These shrubs may indeed exist under such unfavourable circumstances, but their unhealthy appearance will never be pleasing. Where the shade of any tree is too powerful for laurel or privet to thrive, ivy may be planted with advantage, if it be desirable to cover the ground with evergreen.

In proportion as the shrubbery or plantation recedes from the dwelling, it should become more rural in its character, more especially if the house be in the cottage style. Here climbers, and such plants as require the support of others, are to be introduced. The most delightful groups in a pleasure-ground are generally those where nature, freeing herself from the shackles of art, depends only on her own assistance for support. Her beauty is chiefly to be seen there where her various creations combine spontaneously, and without restraint.

The means by which these plants raise themselves up, so as to offer their flowers to the sun, are as various as they are curious, and they seldom blossom whilst trailing on the ground. The ivy and bignonia ascend by the help of little fibres, which fix themselves to the bark of trees or crevices in walls so tightly as to render their disengagement a difficult thing to be accomplished without injury to the trunk or building they are attached to. The honey-suckle, like the hop, twines itself spirally around the trunk or branches of trees, and often clasps them so closely as to make an impression on the hardest timber. Others, as the vine and passion-flower, rear themselves by means of corkscrew tendrils, which hold so fast that the strongest winds seldom disunite them from their support. Some plants climb by means of a hook in their leaf-stalk, or have a kind of vegetable hand given them, by which they are assisted in mounting, as the pea and several others.

To return from this digression.—The sombre, gloomy walk of yew, cypress, or holly, should lead to the spot from which there is the most beautiful prospect, or to the gay parterre, where Flora has diffused her flowery beauties; as the contrast, particularly if sudden, adds greatly to the cheerfulness of the terminating view.

Bad taste is seldom more conspicuous than when we see trees or plants marshalled in regular order, and at equal distances, like beaux

and belles standing up for a quadrille or country dance. Where the situation will permit, four or six lilacs should be grouped in one place, and as many laburnums in another, so as to give effect in various parts by a mass of colour.

The guelder rose should appear as if escaping from the dark bosom of evergreens, and not a plant should be set in the ground without adding to the harmony of the whole. A shrubbery should be planted as a court or stage dress is ornamented, for general effect, and not particular and partial inspection. Boldness of design, which seems to be more the offspring of nature and chance than of art and study, should be attempted; but though boldness is what the planter should aspire to, all harshness, or too great abruptness, must be avoided, by a judicious mixture of plants whose colours will blend easily into one another.

The most beautiful shrubs should occupy the most conspicuous and prominent places. For instance, a projecting part of the plantation should be reserved for the purple rhododendron, the flaming azalca, and other bog plants. Here it must be observed, that unless proper soil be provided for these American plants, the cost of the shrubs will be lost, as they will soon decay when not placed in earth congenial to their nature. With these shrubs may be planted the hardy kinds of heath, as the same soil suits both species. With respect to evergreens, considerable judgment is required in order to relieve their uniform appearance during winter. This may be done by skillfully arranging different kinds, and those with variegated leaves, or such as retain their brilliant berries during the cold months.

However, a well planted shrubbery depends not so much for its beauty on the expense or rarity of the plants it contains, as on the selection of trees and shrubs which succeed each other in blossoming throughout the year, or whose various-coloured fruits grace them for the longest duration of time. We shall, therefore, not dwell upon those plants alone that are the ornaments of the summer season, but also point out some that will contribute to the gaiety of morning and evening of the year; so that the gloom may be banished at all times as much as possible from the grove, and nature's repose shortened between the plaintive good-night of autumn and the cheerful good-morrow of spring.

(To be continued.)

ARTICLE IV.

REMARKS UPON THE PROPAGATION OF PLANTS.

BY A LONDON NURSERYMAN.

3. *Offsets*.—Bulbous and tuberous-rooted kinds of exotics are most commonly raised this way, or else by seed ; but seedlings being so much longer than offsets before they arrive at a state for flowering, occasions this mode of propagation to be seldom resorted to. The bulbous genera, such as *Ixia*, *Gladiolus*, *Morcea*, *Antholyza*, &c., after they have done flowering, should be suffered to dry till the following October, when they must be taken out of the pots, for repotting in fresh soil ; this is the time for increasing by offsets, which, after they are divided and taken from the main or principal bulb, may be potted in small separate pots, in a mixture of equal parts of loam, decayed leaves, and sandy peat ; the pots being previously well drained by broken potsherds. After they are potted they must be set in a cool frame, requiring only to be protected from frost and heavy rains. The smaller bulbs may remain here all the season, but the larger ones, and those likely to produce flower-stems may, after the pots are well filled with roots, be taken and placed in a convenient place in the greenhouse, where, if kept regularly watered, they will flower well.

4. *Layers*.—Many kinds of exotics, as *Punica*, *Nerium*, *Jasminum*, *Myrtus*, &c., succeed best by this mode of propagation. In April or May choose for this purpose some pliable young branches of the desired kinds, properly situated for laying ; let them be brought down gently and inserted into the pot of the parent plant, or, where this is not conveniently practicable, into other pots, filled with the same kinds of compost, and placed near enough for this purpose. Secure them firmly down with wooden pegs, and cover them about an inch and a half with soil ; then lay a little mulch or some mowings of short grass on the surface to preserve the moisture ; refresh them with water when required. Some of the shoots thus laid will be effectually rooted the same summer, or by Michaelmas, and fit for repotting into separate pots as directed for cuttings ; such as are not, must be permitted to remain till the following spring.

5. *Inarching, or Grafting by approach*.—*Citrus*, *Punica*, and

similar exotic genera are often propagated by this means on stocks raise from pips. When it is intended to inarch any particular kind, it must be observed that the stock to be grafted on, and the plant from which the graft is procured, must stand near enough to allow the branch intended to be inarched, as it grows upon the parent tree, to approach and join readily to a convenient part of the stock, forming a sort of arch; for the graft is not to be separated till some months after performing the operation, nor is the head of the stock to be cut off till that time. Some genera, as *Camellia*, *Magnolia*, &c., are often inarched upon the commoner kinds, or those species that will strike root readily from cuttings. From April to June is the most proper time for performing this mode of propagation. Two or three kinds are sometimes inarched on the same graft, which makes a pleasing and varied appearance.

6. *Root Divisions*.—Cultivators at the present day often resort to this mode in increasing those exotics that will not seed or propagate readily by other means; but this way cannot be acted on extensively, unless the propagator has the acquisition of a conservatory to supply his wants; and then care must be taken not to approach too near, or to injure the parent plant. As large pieces as can be spared must be procured and planted in the same kind of soil as the whole plants, in pots proportioned to the size of the roots, with their points above the surface, when they must be plunged in a prepared hotbed, not too hot, nor containing much rank steam. A little air must be allowed in the middle of the day, and shade when the sun is powerful. After they have taken fresh root, and the tops begin to produce leaves, they must be removed and hardened by degrees to the respective departments. Many species of the ornamental and interesting genus *Acacia* can only be readily increased by this means, as *A. decipiens*, *Sophora falcata*, &c.

7. *Leaves*.—Some exotics, as *Hoya carnosa*, *Gloxinias*, *Gesnerias*, &c., propagate freely by this mode, and often easier than any other way. In the spring months let the leaves of the kinds intended to increase be taken off close to the stem, and inserted into the same kind of soil in pots. The whole of the petiole (leaf-stalk) and about half an inch of the leaf should be covered; let it lie in a slanting direction, and cover the pot with a bell glass, laying it into a slight hotbed; and if regular watering be given and the steam out of the

glasses be constantly wiped it will soon strike root. If any should happen to damp off let it be instantly removed, or probably it may endanger the whole. As soon as the leaves begin to put out young shoots, take the glass off and remove them to a dry hut for a few days previous to potting off.

8. *Suckers*.—Exotics, similar to Pitcairnia, Aloe, Yucca, Tillandsiæ, &c., after they have done flowering, generally produce in the summer months suckers for propagation, either from the stem or roots. These can be carefully taken off in the following spring, potted, plunged, and otherwise treated as root divisions.

9. *Plant Divisions*.—The exotics that are generally propagated by this mode are deciduous herbaceous kinds, as Lobelia unidentata, lutea, and campanuloides, Sowerbea juncea, and such like. The plants are best divided when they receive their summer potting, and then their divisions can be potted into separate pots, and placed along with their fellow-denizens in their proper departments. I have endeavoured to illustrate by the above loose hints (for such they are) the principal modes of increasing exotics used by propagators, with the way each mode may be performed with success.

REVIEW.

The Lady's Country Companion, or, How to enjoy a Country Life rationally. By Mrs. Loudon, author of "*Gardening for Ladies, &c.*," with an Engraving on Steel, and Illustrations on Wood. London, Longman and Co., 1845.

(Concluding Notice.)

THE following observations upon Cape bulbs and on the utility of a reserve garden, may be read with advantage, as also may the remarks on the management of annuals, for which, however, we must beg leave to refer our readers to the work itself, the extracts we have already given being a sufficient indication of its general merits. In conclusion we have only to observe that to all those desirous of "enjoying a country life rationally," the book will be found an excellent guide, and it has our most cordial recommendation.

"Many persons fancy that the Cape bulbs require to be taken up

every year, but this is altogether a mistake ; all the kinds of gladiolus, ixia, tritonia, and other similar plants, will live in the open ground, and flower well, if suffered to grow in masses, which would be killed by a single English winter if planted separately. The finest bed of the scarlet gladiolus I ever saw was at Blair-Adam, near Stirling, where it was suffered to remain year after year without alteration ; and the Honourable and Reverend William Herbert, now Dean of Manchester, in his celebrated work on the Amaryllidacææ, states that he has had beds of gladiolus, ixia, tritonia, and other Cape bulbs, at Spofforth, in Yorkshire, which have remained for several years without protection in the open ground. Some persons say that, by manuring the beds every year, tulips and hyacinths may also be grown in the same beds without taking up, for several years in succession ; but this I have never seen tried.

“ You must observe that you have no chance of keeping your flower-garden in a proper state, unless you have in some retired place what is called a *reserve-garden*, in which the plants are brought forward till they are in a proper state for transplanting into the proper flower-garden. This reserve-garden is generally placed near the stable, both to have it out of sight, and for the convenience of manure ; as it must contain hotbeds and frames for rearing tender annuals, striking cuttings, and, in short, for performing all those gardening operations which require to be carried on behind the scenes. In this reserve-garden you must bring forward your Californian annuals.

“ Choose a piece of hard ground, a walk will do, or any place that has been much trodden on, and cover it about an inch thick with light rich soil. In this the seeds of the annuals should be sown the first week in September, and suffered to remain till the bulbs have faded, and the annuals are wanted to cover the beds, which will probably be about April. The annuals must then be taken up with the spade, in patches, and being removed to the flower-garden, they must be laid carefully on the beds, so as to cover them exactly ; the spaces between the patches being filled with soil, and pressed gently down, so that the surface of the beds may be as even as possible. These annuals will come into blossom in May, but they are killed by the dry heat of summer ; and, though they would sow themselves if permitted to seed, it is better to remove them as soon as they have

done flowering. The worst of permitting plants to sow themselves is, that early in autumn the flower-beds will have a very untidy appearance, as the ground not only becomes rough, but it is covered with dead stalks and leaves, which have always a most miserable and desolate appearance; and these cannot be removed till the seed has fallen, while the beds must not be forked over and raked for fear of destroying the seedlings. It is therefore much better, as soon as the annuals have done flowering, to take them up, and throw them away; a supply of seed being preserved by having left some plants in the reserve-ground for that purpose. A second or spring sowing of the Californian annuals may be made in the reserve-ground, to be ready for use in case any should be wanted in the autumn."

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New and Rare Plants.

ACACIA LONGIFOLIA. LONG LEAVED. Leguminosæ. Polygamia Monœcia. A very handsome greenhouse shrub, of graceful form. The flowers are produced on the terminal and lateral shoots, each laden with numerous large globular blossoms, of a rich orange-yellow colour. It has been introduced into this country many years, but is not grown as it merits. Its natural habit is to form a lofty plant, but by stopping the leading shoots, lateral ones are freely produced, and the plant may easily be kept a handsome blooming bush, at any desired height. It succeeds best when grown in equal portions of sandy loam, peat, and leaf mould. (Pax. Mag. Bot.)

BUDDLEA LINDLEYANA. THE PURPLE CHINESE BUDDLEA. Scrophularine. Didymia Angiospermia. The Horticultural Society's collector in China, Mr. Fortune, discovered the present plant almost immediately on his arrival at Chusan. He sent a Chinese drawing of it in bloom, and a packet of seeds. A dried specimen branch has since then been received; it was about half a yard long, having seven spikes of flowers. Each spike is from three to five inches long. The blossoms are tube formed, each about an inch long; the limb spreading, four parted; the outside of the blossom is a pretty violet purple; the upper surface of the limb is a rich crimson red, showing a white inside of the tube; the spike, which is figured here, is four inches and a-half long, and represents about sixty flowers. The plant is shrubby, very branching, and about as hardy as the Fuchsia in general. It is easy of cultivation, and deserves a place in every greenhouse and conservatory. It appears to be likely to grow against an open wall during summer, and not to have a very rich soil to grow in. Now the plant can be procured at about a shilling each. (Bot. Reg., 1846, No. 4.)

VOL. XIV. No. 156.

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CATTLEYA MAXIMA. THE LARGER. (Bot. Reg. 1.) Orchidæ. Gynandria Monandria. This fine flower approaches to *C. Mossiæ* and *C. labiata* in many particulars; but it differs in its very hollow wavy petals, the others being nearly flat and thin; the lip is very remarkable, too, for its beautiful net-work of dark crimson veins and purple streaks. When the flower at first opens, too, it is nearly white, and its colours become more vivid every day. Each flower is about six inches across.

CUPHEA CORDATA. LARGE RED FLOWERED. (Bot. Mag. 4208.) Lythariæ. Dodecandria Monogynia. A native of Peru, from whence seeds were sent to Messrs. Veitch, of Exeter, by their collector, Mr. Lobb. It has bloomed in the stove in their establishment. It is what is termed half shrubby, the flowers being produced in terminal panicles, formed of loose racemes, each bearing from two to four large (for the genus) bright scarlet-red flowers. Very showy and handsome.

FAURÆA OBOVATA. OBOVATE-LEAVED. (Bot. Mag. 4205.) Loganiacæ. Pentandria Monogynia. A very handsome hot-house shrubby plant, much like an intermediate growing *Magnolia*. In a pot it grows about six feet high. The flowers are tubular, funnel shaped, having a wide spreading five-lobed limb, three inches across; they are of pretty cream colour, very fragrant. It is in the Kew collection, as well as the Liverpool Botanic Garden.

GLOXINIA PASSINGHAMII. MR. PASSINGHAM'S. (Pax. Mag. Bot.) Gesneriaceæ. Didynamia Angiospermia. This new *Gloxinia* was found in Rio Janeiro in a deep ravine, much shaded, high up the Corevado mountain. It is of a very vigorous habit, profuse bloom, and large rich deep violet purple flowers. It has been received by Mr. Passingham, of Trew, in Cornwall, with whom it has bloomed.

HEINZIA JASMINIFLORA. JESSAMINE FLOWERED. (Bot. Mag. 4207.) Rubiacæ. Pentandria Monogynia. A native of Sierra Leone, a small hot-house shrub, having somewhat the appearance of a *Gardenia*, with flowers much like a *Jasmine* in form, but an inch and a-half across, white, with a yellow eye. It requires to be grown in the stove. It is in the collections at Kew and the Earl of Derby's.

IPOMÆA SIMPLEX. SIMPLE-STALKED. (Bot. Mag. 4206.) Convolvulacæ. Pentandria Monogynia. A native of South Africa, and is in the collection at the Earl of Derby's garden, Knowsley Park. The root is a solitary tuber, larger than a good-sized apple. From it stems are produced about a foot long, slender and feeble, clothed with long, slender, almost grass-like leaves. It only requires a small pot, to be placed in a greenhouse, and not any trellis or other support for the stems. The flowers are about two inches across, a beautiful rose colour, with five deeper coloured plaits. The plant blooms very freely, and is very pretty.

LOBELIA GLANDULOSA. THE GLANDULAR. (Bot. Reg. 6.) Lobeaceæ. Syngenesia Monogamia. From North Carolina, and has bloomed in the garden of the Horticultural Society. The stem rises about four feet high; the spike of flowers is about a foot long, a pale rosy-lilac colour. Each blossom is about three-quarters of an inch long.

MASFACANTHUS SINENSIS. CHINESE BEARDWORT. (Bot. Reg. 2.) Verbenacæ. Didynamia Angiospermia. Sent to the Horticultural Society's garden by their collector from China; discovered in Chusan. It is an autumn-flowering herbaceous plant, growing about half a yard high, forming neat tufts. The flowers are small, produced on little clusters, and forming whorls around the stem. It is a neat and pretty plant, requiring to be grown in a greenhouse.

MELASTOMA SANGUINEA. BLOODY-VEINED. (Pax. Mag. Bot.) Melastomacæ. Decandria Monogynia. A native of Sunda Islands, where it grows to a bush six feet high. It requires a stove here, and there grows about three feet high. The flowers are about four inches each across, of a beautiful soft rosy-pink colour, forming a blaze of beauty. It has been some years in this country, and

is in the collection of stove plants in the garden of R. G. Loraine, Esq., Wallington Lodge, Carshalton, in Surrey.

NEPTUNIA PLENA. DOUBLE-YELLOW WATER SENSITIVE. (Bot. Reg. 3.) Fabaceæ. Polygamia Monœcia. (Synonym, *Mimosa plena*.) A native of Brazil, Mexico, &c. It is a hothouse water plant, and, in order to succeed, must be grown in water that is eighty degrees of temperature. It has a pretty Mimosa-like foliage, and the flowers form pendant yellow heads.

PERISTERIA BARKERI. MR. BARKER'S DOVE FLOWER. (Bot. Mag. 4203.) A native of Xalapa, in Mexico. Mr. Ross, the collector of G. Barker, Esq., discovered it, and sent it to that gentleman. It is a magnificent flowering species; they are produced in long pendant racemes. Each blossom is globular, an inch and a-half in diameter, a rich yellow colour.

FROM COMPANION TO THE BOTANICAL MAGAZINE, NOTICED, BUT NOT FIGURED.

PLATYCERIUM BIFORME. An Epiphytal Fern, from East and West Indies. It is the noblest of all Ferns of its class. A fine plant is flourishing in the Kew Gardens, and another in the Palm stove at Sion Gardens.

PLATYCERIUM STEMMARIA. A native of Sierra Leone, and was presented by Messrs. Loddiges to the Kew collection. A fine Fern for the hothouse.

MANIETIA UNIFLORA. From New Andalusia. Mr. Purdie, the collector for the Royal Gardens at Kew, discovered it, and sent it there. The whole plant is hairy, even the outside of the flower. It blooms very copiously from August to Christmas, when it arrives at perfection, and appears likely to continue through winter. The flowers are at first a deep red-rose colour, but become paler as they advance in age. It is a very distinct and fine species.

PASSIFLORA DIFFORMIS. From the West Indies. It is a stove climber, blooming through autumn and winter. It does well trained to a balloon-formed trellis. The flowers are rather small, green and black.

DESCRIPTIVE CATALOGUE OF NEW CAMELLIAS (continued from page 21)

- Carbonara, very dark and very double, superb
- Castiglioni, very double white, the centre is pale yellow, with green stripes; superb.
- Catharine Loughi, very large and double, a rich carmine colour; very superb.
- Centifolia (Low's).
- Cinzia anemoneflora, very double, rosy salmon, finely shaded with white; very handsome.
- Cælestina, a delicate rose, form of the old double white; very handsome.
- Columbo, fine red large flower, very handsome. The outer petals form a semi-double flower, imbricated. The centre is very full, like the Pomponne; very pretty.
- Clio, beautiful rose, exquisite form; very double.
- Comte de Rouvroy, a very large flower, deep rich red, with delicate white spots.
- Commensa, imbricated form, very extra; rose, with white streaks.
- Comte de Flandre, very large and very double, rich carmine; handsome, extra.
- Confessa Antonii di Castelbarco, a very double flower, imbricate, the outer petals white, and the other portion cream colour, spotted; very superb.
- Concolor perfecta, fine form, double, reddish purple; magnificent.
- Comtesse de Spauri, white, tipped with red, similar to a Dahlia; very handsome.
- Cooper (not Cooperii), a very elegant form, and a brilliant.
- Cushingtonia, very large and double, brilliant cherry, with large white spots; handsome.
- Dahliaflora ignea, imbricate, brilliant red; superb.
- Darius, imbricate, red, marbled with white; very beautiful.
- De Notaris, very superb form, crimson, shaded with purple violet; fine flower.
- Diva Maria, very beautiful double rose; superb.

- Duc de Brabant, very superb form, pure waxy white, with carmine stripes; a very beautiful kind.
- Duca de Litta, imbricate, very double, rich red spotted, and striped with white; very superb.
- Ducca de Reichstadt, imbricate, very double, deep carmine, spotted with white; very beautiful.
- Duchess of Northumberland, imbricate, very large, beautiful waxy white, striped and spotted with rich rosy red; very superb flower.
- Duchessa de Litta, the outer petals imbricate, white, the centre petals in very neat bundles, a delicate yellow; very magnificent.
- Duchesse de Nemours, imbricate, very transparent white, beautifully spotted with carmine; very handsome.
- Duchesse d'Orleans, form of a *Ranunculus*, beautifully imbricate, pure waxy white, blotched and spotted with carmine; a very beautiful kind.
- Dunlap's Imbricata, very fine rosy carmine.
- White Warratah, pure white; a most superb *Pœony* flowered kind.
- Elena Monti, imbricate, very double, white, striped and spotted with carmine rose; very superb.
- Ugoni, imbricate, white, spotted with red.
- Emélia Gavazzi, the outer petals white, with red shades; fine form.
- Taverna, form of a *Ranunculus*, outer petals carmine, streaked with white; the centre ones white, spotted with carmine; very superb.
- Estherii, a very large, double, globe-shaped flower, pure white, dappled with rose.
- Exquisite (Low's), form of a *Ranunculus*, bright red, very double; a very handsome kind.
- Franklin, a very large, double, noble, white, handsome flower; it is stated to be nearly as large as a *Pœony*; very magnificent.

(To be continued.)

In former Volumes of the *CABINET* we noticed the magnificent Conservatory at his Grace the Duke of Devonshire's at Chatsworth, and desirous of giving our readers further information as to its very successful adaptation for the purposes designed, we extract from the *Gardener's Chronicle* of December 13th the following particulars:—The superstructure represents a curvilinear dome of progressive elevation, the lower side-wings rising 25 feet from the ground-level, from the angle of which the upper dome rises to a final elevation of 60 feet, the length being 270 feet, the width of the ground area is nearly 100 feet, and the upper dome is 70 feet in diameter. The principal side-fronts face the east and west. The general entrance is at the north end, forming a direct communication with the grand central carriage-road which passes through the conservatory to the south end in immediate connection with the pleasure-ground which surrounds it. The ground-level is formed into four pits or borders, two on each side of the central path; a pathway is also formed between the borders for convenience of access to the plants. A platform surrounds the entire area along the side-wings for the arrangements of plants in pots, the north-east end of which is occupied with a select collection of Ferns; amongst them were vigorous plants of *Aspidium Serra*, *Polypodium spectabile*, *Gymnogramma ochracea*, *Woodwardia radicans*, *Asplenium nidus*, *Lonchitis pubescens*, a species of great delicacy and beauty; *Cænopteris japonica*, and *Aspidium falcatum*. On the right of the north-east front is an immense pile of rocks, from the recesses of which some of the larger growing Ferns are thriving luxuriantly. Amongst the most conspicuous, were—*Cibotium Barometz*, having noble fronds or leaves 9 feet in length; *Asplenium præmorsum*, *Didymochlæna pulcherrima*, and *Dicksonia feruginea*. As a continuation of the east front, the artificial rock-work extends 54 feet at a lower elevation, and forms an aquarium (for water-plants), having a massy belt on the back-ground, formed of fossil-rock and tufa stone, amongst which were growing in ornamental masses luxuriant specimens of *Caladium odoratum*, *C. esculentum*, *Arum venosum*, the latter remarkable for its immense leaves. The elegant *Papyrus antiquorum* was displaying its

graceful terminal clusters of rush-like stems, from 6 to 9 feet in length, near the margin of the water. *Limncharis Humboldtii* was also unfolding its lovely lemon coloured blossoms, which reposing upon the dark green foliage had an admirable effect. Amongst the miscellaneous species upon the margin and inner verge, were extraordinary plants of *Richardia æthiopica*, forming a striking ornament throughout the winter. *Nymphaea cærulea*, with azure-blue flowers, and *Sagittaria gigantea*. On the more elevated parts of the rock, large masses of *Hedychium coronarium*, *Alpinia nutans*, and various species of *Canna*, together with the beautiful-habited *Papyrus*, formed a highly picturesque background to the whole. Passing the aquarium, a noble group of the *Musaceæ* appears as a commencement of the east front ground-pit, in which all the plants now under notice are planted. The species of *Musa* comprise *rosacea*, *coccinea*, *Cavendishii*, and a new species with large irregular purple blotches upon the leaves. These noble specimens were from 18 to 20 feet in height, with leaves from 7 to 10 feet in length, and 2 to 3 feet in width, and presented a rich contrast to the differently-habited plants around them.

Amongst the finest plants, as they occurred in continuation, were *Erythrina Crista-galli*, 8 feet in height, and the same in diameter, producing a second crop of flowers, in spikes of from 2 to 3 feet in length. *Salvia splendens*, 8 feet in height, and 25 feet in circumference, with several hundred spikes of orange-scarlet flowers. An *Aralia*, a noble plant, 16 feet in height; *Euphorbia jacquiniiflora*, 7 feet in height, and 12 feet in circumference, promising a rich harvest of bloom; *Hibiscus Jerroldianus* (same as *speciosus*) 10 feet in height; this is a fine herbaceous species, with rich crimson flowers, 6 and 8 inches in diameter. *Michelia oblonga*, a fine specimen, 16 feet in height, and 36 feet in circumference, producing thousands of fragrant blossoms, similar to those of a *Magnolia*. *Lagerstrœmia indica*, 12 feet in height, and 22 feet in circumference, crowned with rose-coloured blossoms; and *Carica Papaya*, 12 feet in height. On the south end border were *Lagerstrœmia elegans*, a magnificent shrub, 14 feet in height and 44 feet in circumference (differing from *L. indica* in its more diffuse habit of growth) producing hundreds of rosy-pink blossoms. *Hibiscus sinensis Parkeri*, 13 feet in height, and 21 feet in circumference, one of the most beautiful shrubs for conservatory culture, and ornamented with crimson blossoms from 4 to 6 inches in diameter. *Saccharum officinarum* (the Sugar Cane) about 20 feet in height, *Cookia punctata*, a neat habited tree, with dark green winged leaves. *Inga Harrisii*, 13 feet in height, and 30 feet in circumference, producing thousands of delicately-shaded crimson, tassel-like flowers in spring. Amongst plants on the east front border, were amazingly fine specimens of the old stove shrub, *Eranthemum pulchellum*, from 2 to 3 feet in height, and 12 feet in circumference; *Justicia speciosa*, equally neat in its habit of growth, producing numerous purple flowers in autumn; *Gesnera oblongata*, also one of the finest winter-flowering plants. On the south-west end border are beautiful specimens of *Cycas revoluta*, and *C. glauca*, extending their elegant feather-like fronds, or leaves, 24 feet in circumference. A large and noble group of *Musa Cavendishii* introduces the visitor to the west front, in the border of which was a matchless specimen of *Poinsettia pulcherrima*, 17 feet in height and 18 feet in circumference, displaying its gorgeous orange-scarlet bracts, from 12 to 18 inches in diameter; also, *Hibiscus rosa sinensis*, 10 feet in height, and 24 feet in circumference, forming a compact tree, richly ornamented with scarlet blossoms; *Lantana mixta*, 10 feet in height, and 33 feet in circumference uniformly studded with orange blossoms; *Duranta Plumieri*, 11 feet in height, and 15 feet in circumference.

A varied feature is assumed in the continuation of the west-front border, by a group of plants, representing the natural order of Cycads, in the genera of *Zamia* and *Cycas*, planted between the interstices and divisions of artificial rock-work, representing their native modes of growth; amongst these were *Cycas revoluta*, 21 feet in circumference, and *C. circinalis* (Sago Palm), 15 feet, the latter producing its elegant feather-like fronds (from a central column), 5 feet in length. *Zamia pumgens*, 8 feet in height, and 26 feet in circumference. *Z. Altensteinii*, 10 feet in height, and 27 feet in circumference. *Z. caffra*, with column-like stems, 10 feet in height, each surmounted with a crown of winged

leaves, 15 feet in circumference. *Elate sylvestris*, with a pillar-like trunk or stem, 10 feet in height. In the west-front border is a small but luxuriant grove of the Mandarin Orange (*Citrus nobilis*), many of the plants measuring 6 feet in height, and from 10 to 14 feet in circumference. On the north-west end, a plant of *Abutilon striatum* presents a fine appearance, being nearly 20 feet in height, and as much in circumference, gaily ornamented with hundreds of pendant bell-shaped orange blossoms. Near this were two magnificent specimens of *Brugmansia suaveolens*, nearly 15 feet in height, and 40 feet in circumference, on each of which were several hundred flowers, each measuring 12 inches in length. A portion of the west and the north-west borders is margined in front with a row of the *Agave Americana*, relieved with occasional specimens of the variegated variety, and with good effect. Amongst the plants on the west border, which appeared well adapted for under shrubs, or for marginal effect, were *Justicia carnea superba*, a beautiful shrub, with large terminal racemes of lively rose-coloured flowers; *Stachytarpheta mutabilis*, with long flower-spikes of light rose and pink; *Melastoma Mexicanum*, a neat habited species, with white blossoms; *Goldfussia anisophylla*, a compact and dwarf-growing shrub, producing purplish-lilac *Gloxinia*-like flowers in winter; *Barleria purpurea*; *Ruellia formosa*, a valuable but neglected plant, which produces numerous scarlet blossoms in spring and summer; and lastly, a plant which everybody ought to possess, viz., *Franciscia Hopeana*; this has a good habit, is easily managed, and a profuse bloomer; it is also admirably adapted for forcing. Amongst the principal plants occupying the inner borders right and left of the great central path, were two specimens of *Dracena fragrans*, 16 feet in height; *Charlwoodia stricta*, 18 feet; and a noble specimen of *Sabal Blackburniana*, extending its elegant fan-shaped fronds nearly 60 feet in circumference; *Bombax aculeata*, 35 feet in height; *Carolinea alba*, 22 feet in height; *Hibiscus liliiflorus*, a wonderful tree-like specimen, 18 feet in height, and 48 feet in circumference, expanding hundreds of bright rose-coloured flowers, 6 to 8 inches in diameter; *Cocus plumosa*, 40 feet in height, with terminal feather-like fronds, each 18 to 20 feet in length; *Cassia corymbosa*, a very beautiful object, 14 feet in height, and 36 feet in circumference, having large terminal racemes of golden yellow blossoms, forming a fine contrast with its dark green Ash-like leaves; *Dracena draco* (the Dragon tree), with a trunk or stem 18 feet in height; *Crotalaria laburnifolia*, 18 feet in height, with drooping panicles of flowers like the *Laburnum*, but of a larger size; *Araucaria Braziliensis*, 30 feet in height. Several fine specimens of *Furcraea gigantea*, extended their immense crowns of leaves upwards of 40 feet in circumference; *Hibiscus splendens* (producing large light rose-coloured flowers, from 6 to 9 inches in diameter), 30 feet in height; *Sterculia platanifolia*, 40 feet in height; *Acacia cornigera*, 12 feet in height; *Erythrina arborea*, a robust branching species, 12 feet; *Corypha umbraculifera* (the Great Fan Palm), 20 feet; *Corypha australis*, 14 feet in height, and 45 feet in circumference; *Cedrela serrata*, a fine habited plant, with beautifully-winged leaves, from 4 to 5 feet in length. Amongst plants of medium sized growth, were *Strelitzia reginae*, *S. angustifolia*, *S. ovata*, *S. juncea*—the last four species are extremely valuable for winter decoration; *Solanum Quitense*, an extremely large-leaved species with axillary blue flowers, 2 inches in diameter; *Hedychium Gardnerianum*, one of the most ornamental of the genus; *Hibiscus militaris*, a neat herbaceous species, 8 feet in height; the buff-flowered *H. Cameronii*; *H. palustris*, a robust herbaceous species, with large pink blossoms, 5 inches in diameter; *H. hirta*, a fine herbaceous species, 5 feet in height; the well-known *Manihot*, a very ornamental half-shrubby species, with red and yellow blossoms, measuring from 6 to 8 inches across. A central cross-path passing at right angles from east to west, has parallel borders planted with *Musa sapientum*; the specimens being from 16 to 25 feet in height, have a very noble and imposing effect. From the south entrance the general view of the inner borders is partially intercepted by a lofty screen, formed of *Bambusa arundinacea*, (the Himalayan Bamboo Cane), which is admirably adapted for the object in view, on account of its immensely long and elegant reed-like stems. Returning to the north entrance, attention is again arrested by the immense mound of rock and tufa-stone, which is rendered not less subservient to ornamental effect, than to

its primary object—of access to the upper dome; on its summit were specimens of the Mandarin Orange, 25 feet in circumference, bearing a profusion of fruit; also luxuriant plants of *Anona Cherimolia* (Cherimoyer). Various species of *Opuntia* (Indian Fig), and *Epiphyllum*, also gave a diversified feature, whilst the numerous masses of Ferns and of the still more delicate *Lycopodium* (Club Moss), and the creeping stems of the *Ficus repens* (*F. stipulacea*?) adhering to the surface, softened down the rugged outline to the harmony of natural effect. In the centre of this artificial arrangement is the winding ascent to the gallery and the spacious dome, which is nearly 30 feet from the ground-level, and from whence a view may be obtained of the central area, where the rare and unique specimens which meet the eye impress the stranger with a belief that every climate under heaven has contributed its richest ornaments to adorn this magnificent fabric."

LONDON HORTICULTURAL SOCIETY'S MEETING, REGENT STREET, JAN. 20.—Mr. Green, gardener to Sir E. Antrobus, of Cheam, Surrey, obtained a Banksian medal for a splendid plant of *Epiphyllum truncatum*, three feet high and four feet in diameter, covered with bloom. This plant had been grafted on *Cereus speciosissimus*, which Mr. Green finds to be the best stock for grafting Cacti on. His treatment is, to graft in March, to grow the plants two summers in a stove until they attain some size, and then to place them in an airy greenhouse until the spring, when they are moved to the stove, and from thence to a warm exposed part of the garden when their growth is over, which sets the flower buds; the plants are then kept in a warm greenhouse, and removed to the stove or forcing-house in succession; they are occasionally watered with guano water. Mr. Green also exhibited a fine specimen of *Gesnera zebrina*. Messrs. Veitch and Sons, of Exeter, exhibited two *Collanias*, upright, rigid *Alstromeria*-like plants, which were received from Peru, and supposed to be hardy; the flowers are drooping, of a pinkish colour, tipped with dull green. Mr. Fraser, of Lea-bridge road, had a new *Euphrasia*, of a deep crimson, a desirable variety named *fulgens*. Mr. Dawson, of Brixton-hill, had a fine bush of *Erica Banksii*, and one of *E. mutabilis*; the former obtained a certificate. Mr. Ivery, of Peckham, sent a seedling *Cineraria*, named *Couqueror*, of excellent properties; the colour is deep rich blue, and the petals fine.

WEIGHELA ROSEA (Order *Caprifoliaceae*).—This shrub, which is supposed to be capable of enduring our climate without protection, was sent from China by Mr. Fortune to the Horticultural Society. It is a shrub like a *Syringa*, with smooth whitish stems, the young ones green, and slightly veined. The flowers are axillary and terminal, three or four springing from each end of the shoots; they are tubular, the mouth reflexed, and cut into five equal segments. Each flower is rather more than an inch long and one and a-half in diameter; a deep rose outside and white within. Blooming so freely renders it a very beautiful and showy plant.

Floral Operations for February.

IN THE GREENHOUSE.—Keep everything clean and in good order, that alone is a recommendation to anybody; at this season few plants are in flower, and therefore filth and confusion will be more perceptible. This department should have good attendance during this month, and place every family of plants together; they grow best so classed, because the same temperature and attention usually suits them all.

The herbaceous kinds of plants will require occasional waterings, but less frequent and in less quantities than the woody kinds. Succulents, as *Aloes*, *Sedums*, &c., should be watered very sparingly, and only when the soil is very dry. When water is given it should be as much as will moisten all the soil, where water is only given to moisten the soil an inch or two at the top and the other kept quite dry, the result is generally certain, namely, the death of the

plant. The plan to be attended to is, water only when necessary, but a full supply when it is done, and water at the early part of the day so damp may be dried up before evening. Air should be admitted at all times when the weather is favourable, or the plants cannot be kept in a healthy state. When the weather is damp, foggy, &c., do not give air, then let a dry air only be admitted. Cause the plants to shoot vigorously, both at the roots and tops. Repot *Amaryllis*, &c. Tender and small kinds of plants should frequently be examined, to have the surface of soil loosened, decayed leaves taken away; or if a portion of a branch be decaying, cut it off immediately, or the injury may extend to the entire plant and destroy it. *Gloxinias*, *Achimenes*, &c., now beginning to push, should be potted singly.

IN THE GARDEN.—*Auriculas* should, at the end of the month, be top-dressed, taking off old soil an inch deep, and replacing it with new; give air freely when dry weather.

Bulbs, as *Hyacinths*, &c., grown in water-glasses, require to be placed in an airy and light situation when coming into bloom. The water will require to be changed every three or four days. The flower stem may be supported by splitting a stick at the bottom into four portions, so as it will fit tight round the edge of the glass at the top,

The seed of *Calceolarias* should be sown at the end of the month, and be placed in a hot-bed frame, also cuttings or slips be struck, as they take root freely now. Sow *Pentstemon*. Seed does best sown now in pots,

Cuttings of *Salvias*, *Fuchsias*, *Heliotropes*, *Geraniums*, &c., desired for planting out in borders or beds during spring and summer, should be struck in moist heat at the end of the month, in order to get the plants tolerably strong by May, the season of planting out.

Dahlias.—*Dahlia* roots, where great increase is desired, should now be potted, or partly plunged into a little old tan in the stove, or a frame, to forward them for planting out in May. As shoots push, take them off when four or five inches long, and strike them in moist heat. Seed, sow immediately.

Herbaceous Perennials, Biennials, &c., may be divided about the end of the month, and planted out where required.

Mignonette, to bloom early in boxes or pots, or to turn out in the open borders, should now be sown.

Rose Trees, Lilacs, Pinks, *Hyacinths*, *Polyanthuses*, *Narcissus*, *Honeysuckles*, *Persian Lilacs*, *Primroses*, *Rhodoras*, *Persian Irises*, *Sweet Violets*, *Cinerarias*, *Hepaticas*, *Aconites*, *Jasmines*, *Azaleas*, *Lily of the Valley*, *Correas*, *Gardenias*, *Cyclamens*, &c., should regularly be brought in for forcing.

Tender Annuals.—Some of the kinds, as *Cockscombs*, *Amaranthuses*, &c., for adorning the greenhouse in summer, should be sown immediately.

Ten-week Stocks, Russian and Prussian Stocks, &c., to bloom early, should be sown in pots, placed in a hot-bed frame, or be sown upon a slight hot-bed, also some other of the tender kinds, to prepare them strong for early summer blooming.

Protect the stems of tender plants with Furze branches, dry leaves, Fern, &c. The stems of tender climbing *Roses* are screened by such precaution.

Chrysanthemums.—The heads of decayed flowers should be dried, and saved for the seed, which probably they possess, and be sown in spring and raised in a hot-bed frame.

Protect beds of *Tulips*, *Hyacinths*, &c., *Carnations*, *Polyanthuses*, *Auriculas*, *Pinks*, *Pansies*, &c., with Furze, Fir branches, dry leaves, &c., or, if in pots, in frames.

Camellias, if not regularly supplied with soft, not too cold, water, the buds will drop; if too much, frequently that will cause them to drop too.

Pelargoniums.—(See Articles on Culture.) To have show specimens this month, repot, and thin shoots, &c. Allow plenty of air.

Roses.—Plant immediately, or will be too late for success this season. Now give a good top-dressing to, of well-rotted manure. Prune them, weak-growing kinds cut in short, to two or three buds. More vigorous leave more lengthy. Arrange to have the branches left tolerably apart.

UNIV. OF
CALIFORNIA



1, *TETRATHECA HIRSUTA*

2, *CUPHEA CORDATA*.

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,

MARCH 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

1. CUPHEA CORDATA.

THIS beautiful and very showy flowering plant is a native of Peru, from whence it was sent to Messrs. Veitch's, of Exeter, three years ago, with whom it bloomed last summer, and from whence our drawing was made. It is what is termed half-shrubby; and although it has been grown in a hot-house with Messrs. Veitch's, yet is very likely to flourish in the green-house. It is readily increased by cuttings, and merits a place wherever it can be grown.

2. TETRATHECA SPECIOSA. SHOWY TETRATHECA.

Our drawing of this very pretty plant was made from a specimen recently bloomed in Mr. Low's nursery at Clapton.

It is a native of the Swan River colony, where it was discovered, and seeds were transmitted to Mr. Low. The plant forms one of the most pleasing and elegant of little greenhouse shrubs; the light and airy appearance of its branches, ornamented with bright starry flowers, having a very attractive effect.

This, and other kinds belonging to the natural order Tremendraceæ, succeed well in the ordinary light composts of peat soil and loam, which are used for delicate greenhouse plants in general, a free drainage and plenty of air in the summer season being the essentials.

In transferring the drawing to the plate, we regret that our artist, by
VOL. XIV. No. 157.

mistake, added an erroneous specific name. *T. hirsuta* is a species figured in No. 152, by its original name of *Tremandra Hugelii*, and the only resemblance which this kind bears to that variety is in the flowers; here, however, they possess this very decided advantage, that of continuing open many days, whilst those of *T. hirsuta* close on the evening of the day they open.

ARTICLE II.

THE METROPOLITAN FLORAL EXHIBITIONS.

HORTICULTURAL SOCIETY, *July 12, 1845.*

THIS terminated the grand shows for the season, and the splendour of the closing scene was worthy of that magnificent display with which it was ushered in. Many of the plants produced on this occasion were superior to similar ones exhibited at previous shows, particularly in the Orchids and Heaths.

The collections of greenhouse and stove plants were not only numerous but rich in fine specimens of cultivation. Our limited space, however, will only permit us to address our remarks to the Florist's flowers, with this brief observation, that in new and rare plants, the best were *Fuchsia serratifolia*, *Siphocampylus coccineus*, and *Calandrinia umbellata*, each of which we have already figured and described. Of a lower rank with these was a graceful little novelty named *Salpichroa glandulosa*, with trailing shoots and pale yellowish green pendant tube-shaped flowers; and a new *Statice* from China, with minute pale yellow and white flowers, pretty, but by no means remarkable. We now, therefore, pass on to the

FLORISTS' FLOWERS IN POTS.

PELARGONIUMS.

12 new and first-rate kinds.

In the nurserymen's section the judges considering it their duty to withhold the first prize, as the express stipulations for which this class was established—to bring into early notice new and first rate flowers—had not been complied with. The second prize was given to Mr. Gaines, for *Alba grandiflora*, Duchess of Leinster, fine; Prince of Wales, Begum, Cecilia. Floridum, Trafalgar, beautifully feathered; Lady Sale, Rising Sun, Indispensable, fine; Rhododendron, and Amelia. A third prize was given to Mr. Ambrose, also of Battersea, whose collection was composed of these, not very new kinds, Madeline, Constellation, Witch, Duke of Cornwall, Erectum, Sir W. Scott, Acme, Sunrise, Mogul, Symmetry, Victory, Superb, and Aurora. In the private growers class, Mr. E. Beck, of Isleworth, received the first prize with Pompey, (Hoyle,) Sultana;

Amazon, Rajah, Margaret, Isabella, Repeater, Sunset, Desdemona, Mark Antony, Titus, and Effect. Mr. Cock, of Chiswick, obtained the second prize for finely grown plants of Mary, Sunrise, Repeater, a fine purple; Conflagration, Gipsy Queen, Jessica, Achilles, Milo, Duke of Cornwall, Rosetta, Hector, and Katinka. The third prize was awarded to Mr. R. Staines, of Paddington, for La Polka, Clio, Ackbar, Audromache, Sunrise, Nestor, fine; Duke of Cornwall, Emperor Nicholas, Nova Elegans, Black Dwarf, Fairy Queen, and Merry Monarch.

12 kinds, containing older varieties.

Mr. Gaines, in the nurserymen's class, was the only competitor; a first prize was, however, adjudicated to him for Spartan, Priory King, Trafalgar, Duchess of Leinster, Triumphant, Henrietta, Don Juan, Ariamane, Rising Sun, Hermione, Lady Sale, and Ackbar's Star. Amongst private growers Mr. Cock obtained the first prize with Emma, Milo, Sarah, Hector, Cora, Pulchellum, Vesta, Comus, Symmetry, Erectum, Countess of Morley, and Diadem. Mr. Staines won the second prize with Merry Monarch, Archbishop of Canterbury, Clio, Audromache, Sapphire, Hero, Queen of the East, Aurora, Lord Ebrington, Amy Robsart, and Sylph.

6 varieties.

Only one collection of these was produced by Mr. Cock, and it was awarded a prize; the kinds were Cyrus, Superb, Nameless, Sarah, Black Dwarf, Redworth, and Pulchellum, all very well grown.

ROSES.

These were shown in the very finest condition by Messrs. Lane and Co., in the nurserymen's class, who obtained the first prize; the kinds were White Bath, Chas. Duval, Josephine Malton, Besnor, Comte de Paris, Gen. Kleber, Devoniensis, La Pactole, Madam Plantier, Coup de Hebe, Gracilis, Great Western, Floralia, Triumph de la Guillotière, La Page, Proserpine, Colbert, Eugene Beauharnais, Miellez, Eliza Sauvage, Guillaume, Blanch fleur, Gen. Allard, Scholastique, and Comtesse de Laeepede.

To Mrs. Stedman, of Isleworth, the second prize was given, but the collection did not contain anything remarkable; the best were. Souvenir de la Malmaison, Triumph du Luxembourg, Duc de Luxembourg, Gen. Allard, and Mrs. Bosanquet.

In the private growers' class, Mr. Slowe, gardener to R. W. Baker, Esq., deservedly received the first prize, for excellent specimens of Hymene, Duchesse d'Orleans, Alcine, La Pactole, Bougere, Sir W. Scott, Phoenix, Anteros, Saffrano, Eliza Sauvage, Napoleon, and Belle Emilée. Mr. E. Back obtained the second prize. The best specimens in this group were the same kinds as we have mentioned in Mrs. Stedman's.

FUCHSIAS.

Three collections only were exhibited. Mr. Robinson, gardener to T. Simpson, Esq., gained the first prize, with the following 12 sorts:—Formosa elegans, Prima Donna, Goldfinch, Hope, Queen (Pawley), Robinsonii, Kppsii, Chandlerii, Exoniensis, Vesta, King John, and Magnet. Mr. Gaines received the second prize for Goldfinch, Pearl, Pirolle, Duchess of Sutherland, Prima Donna, Miss Talford, Vesta, Gigantea, Exoniensis, Madonna, Decora, and Cassandra. Mrs. Stedman exhibited Prima Donna, Goldfinch, Sir H. Pottinger, Attractor, Hector, and some older kinds.

FLORIST'S FLOWERS.—CUT BLOOMS.

ROSES.

An immense quantity of these were present, and amongst them all the finest kinds in cultivation. We were unable, from the crowds

which surrounded, to obtain a list of all of them ; the following brief selections, however, shows some of the best :—

In collections of 50 varieties,

Messrs. Lane and Son was first amongst the nurserymen ; we here noticed splendid specimens of Adele Provost, Jane d'Urfe, Prince Albert, (Hooker,) Cambronne, Chenedole, Robin Hood, Baronne Prevost, Comte de Paris, Fleur d'Amour, La Reine, Cynthia, Franklin, Glory of France, Paul Perras, Columelle, La Belle de Bruxelles, Beauté de Nanteuil, Calypso, Bizarre Marbre, and Bernardin. Mr. B. P. Francis, of Hertford, obtained the second prize ; amongst these was Devoudensis, Coup d'Hebe, Franklin, Felicite, Earl Tidhot, Boule de Nanteuil, Pseerpine, Mail. Dabarry, Sophie de Marilly, Flora McIvor, La Volupte, Melanie Walder, Aspacie, Triomphe de Laqueue, Duchesse de Nemours, Conspicua, Comte de Paris, Louis Bonaparte, and Belle Clementine. To Mr. Hooker, of Breckley, was given the third prize. We observed Fulgorie, Belle de Segur, Heureuse Surprise, William Tell, Novalenska, Souvenir de la Malmaison, Richelieu (Duval), and Rose Unique Panache. In addition to the above was collections—from Mr. Rivers, of Sawbridgeworth, in which we saw Le Vesuve, Schonbrunn, Coupe d'Hebe, Crivalis, Sidouie, Cramoise Picotte, Melanie Cornu, La Reine, Cynthia, Paul Perras, Felicite, Boule de Nanteuil, Leonel Dumontier, and Cornu ;—from Mr. Cutbush, the best of these were La Moskowa, very dark ; Wariciens, Belle Satiree, Guerin's Gift, and Cour Amiable ;—from Messrs. Cobbett, of Woking, who had fine blooms of Brennus, Triptoleme, Franklin, Earl Talbot, Lady Cooper, Madame Dabarry, Col. Bonnaire, Victor Hugo, and Waterloo ;—from Mr. Laing, in these the finest were Madame Campan, Belle Marie, Iphigante, Cynthia, Celestine, Chas. Duval, Brennus, La Reine, Enchantress, Stadtholder, Las Casas, Prince Albert, Comte de Paris, and Duchesse d'Angouleme ;—from Mr. Hosier Waterer, of Knap Hill, whose finest flowers were, Amiable Queen, Lucifer, Belle de St. Cyr, La Reine, Saphyrine, Lady Alice Peel, Queen of Denmark, Lady Stewart, and Avenant ;—and from Messrs. Paul and Son, who showed La Reine, Cynthia, Unique Rouge, Daubenton, Adele Provost, Reine de Francais, Felicite Parmentier, Duc de Treviso, Marie de Champslou's, Julie de Etrangers, &c. In the private growers' class, Mr. Terry, gardener to Lady Pullen of Youngsbury, Herts, received the first prize. The more striking kinds in this stand were La Grandeur, Madame Hardy, Village Maid, new ; Agnodice, Madame Campan, Glorieux, Triomphe de Laqueue, Couronne de President, and Belle Comtesse. The second prize was awarded to Mr. Parsons, gardener to A. George, Esq., of Enfield, who showed, amongst others, fine blooms of Hennequie, La Volupte, Chas. Duval, Queen of Denmark, Triomphe de Laqueue, Comtesse de Lacpede, King of Rome, Cynthia, and Sophie de Marsilly. Mr. R. H. Betteridge, of Abingdon, obtained the third prize ; we observed superb blooms of Aglae Adanson, La Ville Bruxelles, Cicero, Triomphe de Rennes, Cynthia, Village Maid, new ; Conlard, La Moskowa, Julie, Princesse Marie, Beauté de Billard, Glorieux, Richelieu, Triomphe de Laqueue, Belle Marie, Kean, La Vesuve, Duc de Treviso, and Chas. Duval. In addition to these collections was one from Alex. Rowland, Esq., of Rosenthal, which comprised some excellent flowers, particularly Madame Ondinet, Suriet de Chokier, Louis Napoleon, King of Rome, Duc de Cassox, Comtesse de Lacpede, Cynthia, and Agnodice.

In collections of 25 blooms.

The competition is exclusively for private growers.

Mr. Pond, of Bath, was awarded the first prize. Amongst these kinds we noticed fine blooms of Glandulosa Riversen, Bizarre Marbre, Duc de Treviso, King of Rome, Village Maid, new ; Charles Duval, Coupe de Hebe, and Felicite. R. Crutwell, Esq., of Bath, obtained the second prize ; Coupe de Hebe, Heureuse Surprise, Lady Stuart, Souchet, Madame Deprez, new, crimson ; Reine de Belgique, and Comtesse de Lacpede, were the best specimens. The third prize was given to Mr. Slowe, the finest flowers in whose stand was Acidale,

Cramoïse, Superieure, Brennus, Bougere, Lady Alice Peel, William Jesse, Robin Hood, and Triomphi de Laqueue. In addition to these Mr. F. Beck and Mr. Bennett, showed collections.

Moss Roses

Were shown in stands of 12 blooms.

Messrs. Lane and Son obtained the first prize in the nurserymen's class, for *Mosseuse Partout*, *Unique de Provence*, *Luxembourg*, *Josephine*, *Eclaire*, *Splendens*, *Celina*, *Gracilis*, *French Crimson*, *Blush*, *Crested* and *White Bath*. Messrs. Cobbett of Cobham, and Francis of Hertford, were each awarded second prizes. From the former was, *Luxembourg*, *Presque Partout*, *Princess Royal*, *Prolifere*, *De Metz*, *Malvina*, *Crested White Bath*, *Celina*, *Splendens*, *Blush*, and *Unique de Provence*. Mr. Francis had *Celina*, *Unique de Provence*, *Panache Pleine*, *Vilmorin*, *Prolifere*, *Malvina*, *French Crimson*, *Mottled*, *White Bath*, *Blush*, *De Metz*, and *Damask*. Mr. Hooker obtained the third prize with *Scarlet*, *Celina*, *White*, *Blush*, *White Bath*, *Eclaire*, *Damask*, *Unique*, *Mosseuse Partout*, *De Metz*, *Panache Pleine*, and *Ferrugineuse du Luxembourg*. In the other stands, both of nurserymen and private growers, was nothing deserving mention, different from those we have now enumerated.

CARNATIONS AND PICOTÉES.

The display of these, from its being early in the season, was limited—but extremely creditable to the growers. The only stand of carnations was from Messrs. Norman, of Woolwich, containing the following sorts finely bloomed, and in good colour:—Wigg's Earl of Leicester, Norman's S. 6, Norman's S. 7, Orson's Reform, Ely's Mango, Hyron's Deliance, Hughes's Sir Joshua Reynolds, Lodge's True Briton, Dalton's Lancashire Lass, Norman's S. 8, Toon's Ringleader, Hunt's Seedling, Cartwright's Lord of the Manor, Kay's Omnium Primum, Wildman's Marshal Soult, Wood's Rosabella, Martin's Prince Albert, Simpson's Marquis of Granby, Puxley's Prince Albert, Pierson's Sir G. Carew, Willmer's Solander, Low's Grand Sultan, Kenning's Duke of Cumberland, and a Seedling. The Picotées are always greatly admired, from their extreme delicacy and beauty of colour; we scarcely ever saw a finer stand of flowers, than those contributed by J. Edmunds, Esq., Wandsworth, to whom a first prize was awarded. It comprised the following sorts:—Sharp's 101, Gem, Agitator, and Elegant, Barraud's Borderer and Bride, Mrs. Bevan, Wildman's Isabella, Wain's Victoria, Ely's Field Marshal, and Grace Darling, Nottingham Hero, Miss Annesley, Jamie Gordon, Lady Chesterfield, Willmer's Elizabeth, and Prince Royal 136, Matthew's Ne plus Ultra, Crask's Prince Albert, Halliday's Henrietta, Dixon's Seedling Red, Calcott's Princess Royal, Brinkler's New Purple. In the nurserymen's class, Messrs. Norman of Woolwich, sent admirably bloomed flowers, to which a first prize was also awarded. They were the following sorts:—Sharp's Cleopatra, Jamie Gordon, and Agitator, Kirtland's Miss Newcomb, Sabina, and Queen Victoria, Dickson's Trip to Cambridge, Norman's Dick Lee, Seedling's 3, 4, and 5. Willmer's Prince Royal, Robinson's Nottingham Hero, Thurtell's Norwich Rival, Norman's Beauty, and Seedling 1, Coster's Venus, Wood's Seedling, Gowing's Bride of Abydos, Crask's Prince Albert, Hogg's Mrs. Mathews, Halliday's Fair Phillis, Norman's Seedling 2, and Brinkler's Lady Chesterfield.

PINKS.

These were rather on the decline; but two good stands were exhibited, one from Mr. Norman, of Woolwich; the other, from Mr. Henbrey, of Croydon; the rest were not sufficiently good for prizes. Mr. Norman received the first prize for Kirtland's Gay Lad, Beatrice, and Dr. Daubeney; Weedon's Queen Victoria, Fisher's Matilda, White Warden, Church's Rowena, Thurtell's Mile-end Deliance, Wallis's Unique, Headley's Duke of Northumberland, Smith's Dr. Coke, Willmer's Duchess of Kent, Hardstone's Prince Albert, Willmer's Tom Davey, Garratt's Alpha, Norman's Henry Creed, Unworth's Omega, Heath's Lord

Byron, Jelf's Mary Ann, Hodge's Cyclops and Mars, Creed's President and Clark's Matilda. Mr. Henbrey's collection was as follows:—Vandenburg's King, Davey's Britannia Rubens, Willmer's Tom Davey, Seedling, Coronation, Bragg's Duchess of Cornwall, Willmer's Duchess of Kent, Seedling, Quercus, Dr. Daubeney, Seedling, Willmer's Prince of Wales, Blackheath Hero, Henbrey's Cæsus, Cousen's Queen Victoria, Norman's Wellington, Hodge's Mars, 182, White's Warden, Dr. Coke, Hardstone's Prince Albert, Countess of Plymouth.

VERBENAS.

A prize was given for a stand of the following:—Girling's Messenger, Gladiator, Rose d'Amour, Giant, Defiance, Smith's Superba, Excelsa, Delicata, Vesta, Youell's Princess Royal, Duc de Nemours, Merry Monarch, Avalanche, Lovely Ann, Smith's Queen of England, Miss Watson, Atropurpurea, Emma, Beauty, Lilac Perfection, Duchess of Sutherland, Alexander's Enchantress, Grandis, and Poulthi. It was from Mr. George Smith of Hornsey.

SEEDLINGS.

The seedlings were not so numerous as at former meetings; several *Pelargoniums*, however, were exhibited. One only of the present season was selected by the judges, and received a certificate. These beautiful flowers are so much improved, that it becomes annually more difficult to raise sorts that will carry this class onward to perfection. The flower chosen by the judges was named *Paragon*, a rich and high-coloured purple flower, superior in all respects to *Sir R. Peel*, from Mr. Whomes, gardener to E. Foster, Esq., Clewer Manor, near Windsor; a promising seedling from Mr. Kinghorn, named *Mary Queen of Scots*, was also exhibited. Others possessed fine colour devoid of shape, and some with shape, but common in other qualities; but as this class is now progressing onward, form, colour, and substance must be combined in the same flower to become an established favourite. Certificates were also given to two seedling *Calceolarias*, one named *Leopardii*, from Mr. Best of Reading, cream ground, with chocolate spots; and the other was from Mr. Gaines, named *Althea*, yellow ground very prettily spotted.

ARTICLE III.

PARTICULARS OF THE CULTURE OF THE TRIBES OF CACTUSES.

BY A DEVONSHIRE FLOWER GARDENER.

THE culture of Cactuses during summer is simple and generally known. With sufficient water, not sparing it, as generally happens, and free access of air, they will take care of themselves, with the exception of unrooted offsets, *Melocacti*, and some *Mammillarias*.

They thrive well in summer kept in the open air, without any covering, if they are allowed to have plenty of water. With this treatment there is little danger of the plants being attacked by red spider or scale. But should spider appear, I know of no better means of getting rid of it than by sprinkling the plants thickly with flowers of sulphur; and an abundant washing with clean water with a syringe helps to destroy the scale. The treatment of cactuses during winter is very different from that in summer. In their native country the dry time of year has the same effect upon those plants as winter has on ours, namely, it produces a state of rest. In this state, if they are to remain in health, and flower the following summer, they should not be removed to a cold greenhouse, for in their native country they do not arrive at maturity through cold, but by the dryness of their situation. Indeed, the experience of many years has taught me that they thrive well if they are kept in a hot-house.

When they are removed in autumn from the open air into a hot-house, do not leave off watering them immediately, because that would interrupt vegetation too suddenly; but continue to water them regularly until nearly the end of the year, only not so abundantly as before, and stop it by degrees until the end of December, when it must be discontinued altogether. From this time to the period when the plants can be again placed in the open air they need no water, not even if they should begin to dry up or to shrivel, for there is no danger of their being injured by getting into that state; but great disadvantage would arise from watering them, and many specimens might be lost. No doubt when watering is discontinued roots are apt to die off, because being less succulent than the plant itself they soon lose their moisture which cannot be replaced out of the dry earth. This, however, does not harm the plants in a dry state, but at a later period, when watering is renewed, it then may have disadvantageous consequences, for it is then found that the dead and withered roots easily decay, and this communicates itself by degrees to the centre of the plant, which then speedily perishes. It is, therefore, indispensable that the plants should be examined in order to see whether rottenness is beginning; for if this is discovered too late, there is no remedy, and the decay will extend, and destroy the plants.

There is no great difficulty in the propagation of them. However, there are many, especially among the better and rarer sorts, that are

not easily propagated. If offsets do not in a short time strike out roots, the reason is because the cut surface is woody, and many months, and even years, may elapse before they again form new roots. I have succeeded in propagating *Pilocereus senilis* (Lemaire), *Cereus Bradypus* (Lehm), and *C. senilis* (De Cand.), in the following manner, by offsets: viz., I filled a pot with earth, and put it into a larger one, so that the edge of the outer pot stood nearly an inch above the inner one. The large pot, having the hole at the bottom stopped up, was filled with water until it was level with the earth in the inner pot; in this earth the offsets were planted; the whole was then covered with a piece of glass, and exposed to the rays of the sun. it is necessary to look after it frequently, in order to renew the water, if it should evaporate too much. In this way offsets of these made roots very soon. This treatment can also be applied with favourable consequences to the offsets of other kinds, whose cut surface is much withered. It is necessary to keep the offsets continually damp; and in order to accomplish this they should be put into pots from eight to ten inches in diameter; and after every watering, which should be repeated as often as necessary, the pot should be covered with a piece of glass. The more common kinds propagate easily of themselves, and do not require much trouble or attention.

ARTICLE IV.

ON A SIMPLE TRELLIS FOR CLIMBING PLANTS.

BY K. OF LANCASHIRE.

As many of your amateur subscribers must be similarly circumstanced with myself, in having only a small greenhouse, a page in your Cabinet will, perhaps, not be unprofitably occupied by a description of a simple yet useful trellis for climbing plants, the pattern of which is of my own designing. Having used it for some years, I can speak confidentially of its advantages.* It is cheap, (three feet high cost but nine-pence, each) and can be made by any one of common ingenuity.

* It consists of two pieces of strong wire seven feet six inches long, bent over at the summit crosswise, so as to form, at equal distances, four principal supports, around which I coil suitable sized wire, so as to form spaces between the wires, of a diamond shape. Such a trellis would be three feet high, and allow six inches or more for the lower parts of the principal supports to be inserted in the soil inside the pot.

When placed in the flower-pot, the plant does not project over the side, so as to occupy more space, but forms a pretty and compact pillar, presenting an equally ornamental surface on every side upon which it is viewed. If the plant attain sufficient size to require additional trellis-work, another trellis can be readily piled upon the first, and secured to it by slender wire. Upon a trellis of this sort I have trained a beautiful *Kennedya*, five feet high, and one mass of bloom and foliage; *Clematis*, *Sieboldii*, and *Azurea grandiflora*, are other beautifully adapted climbers, and I need scarcely enumerate *Tropæolum*, *Petunia*, *Rosa*, &c., &c. I have a *Polygala oppositifolia*, and *Scarlet Phlox Drummondii*, which by frequent stopping and close training, present a far different appearance to their usual leggy and spindled form.

Whilst the plants are young, or to secure a stray branch in the right direction, I have made use of small rings of leaden wire, which may be applied or removed at the will of the cultivator. A piece of slender leaden wire (such as is now sold for gardening purposes in every country town), is coiled spirally round a small stick; and the point of an old pen-knife carried through the wire from end to end. When the wire is slipped down the stick, it will of course be found divided into a number of small neat rings, which may be readily opened and again closed to secure any stray branch to the trellis. They will of course last for years, since they may be used over and over again. I likewise make use of the rings to secure the calyxes of pinks and carnations from bursting irregularly, which I find they do, as well, or better, than strips of matting, &c.

ARTICLE V.

ON THE CULTURE OF CINERARIAS.

BY THE FOREMAN OF A LONDON NURSERY.

PLANTS that will bloom through the entire of winter, and especially in dwelling-rooms, are always highly esteemed; and of this class none is more entitled to it than the *Cineraria* in its now numerous varieties, which comprise almost every colour and shade of their very lovely flowers. In the establishment under my charge, we have eighty varieties, and, by due management, I have a profuse bloom throughout the year; especially, however, they bloom vigorous from

October to June. The mode of management with the Cinerarias now being so much better known than formerly, they can be bloomed so much superior in proportion.

The following method of cultivation is what I pursue, and my plants in bloom and growth are very much superior to any other I have seen. I obtain a mass of bloom, and the flowers of a large size; and generally have heads of them two feet and a half across, some even more. The compost I use is equal portions of rich turfy loam, rotten cow-dung manure, vegetable mould, and sandy peat, with a scattering of bits of charcoal in it. I always have a free drainage of broken pot, and over it some unbroken pieces of turf or peat.

About the middle of April I take off a sufficiency of suckers, with as many fibrous roots as possible, when potted, in smallish pots, varied by the size of the sucker, but usually about four or five inches across. I place them in a hot-bed frame, in gentle heat; shading them from mid-day sun, and occasionally syringe them overhead, till I see them established. Air is admitted in due proportion as they become more and more rooted. When the pots have got filled with roots, I re-pot them into six or seven-inches pots, keeping the balls entire, and I have them placed in a cool frame, giving them plenty of air during the day-time, but shading overhead till the end of May. From that time I expose them to the open air, day and night; in which situation I retain them during summer. As the pots get filled with roots I again re-pot, in a corresponding larger pot. Soft water, obtained principally from a tank, which is supplied from what is collected from the rain falling upon the roofs of the houses, is regularly and freely given to the roots, never allowing the plants to flag. And early in the morning, and towards evening, I have them sprinkled over head with pure water from a bason till the middle of September.

The former mentioned water is strongly impregnated with soot, and it appears to me very materially to promote their vigour. As flower-stems are produced I thin away some, so as to retain just sufficient for a vigorous bloom, and properly tie up such as are to flower. If any plant pushes shoots too early for my intended blooming season, I pinch off the top, and, thus retarded, other shoots proceed. By the early part of October I take the plants into the greenhouse, or show-house; they are duly attended to, soon come

into bloom, and from that period to May they continue to bloom. In order to obtain a bloom to come in later than these, I pot off suckers proportionately later, pinch away the flower-shoots at an early stage, and thus retard the blooming season; so that, from April to October, a profusion of them is obtained.

The green-fly is an enemy to the *Cineraria*; at first appearance, immerse them overhead in strong tobacco-water, or in a frame closed up fumigate them.

In order to obtain suckers, if such are not produced by the usual treated plants, pinch off all flower-stems as soon as they appear; this will induce the production desired. Seedlings are easily obtained. Sow the seed in spring, or not later than the end of June, in pots, placed in heat; harden the plants regularly; pot off, in small pots, as soon as they are well rooted, and they will become strong before winter, and will bloom the following summer; from them, selections being made, plants can be obtained to be treated in future as desired.

The most esteemed *Cinerarias* are such as possess large blooms, filling up the circumference by having broad flat petals, and without a notch at the end of a petal. The more decided the colour in its richness and distinctness the better; and the more striking the contrast in colours, the more ornamental and handsome. I will furnish a descriptive list for insertion in the next Number of the *CABINET*. Plants can now be procured at a very cheap rate.

ARTICLE VI.

ON THE CULTURE OF LUCULIA GRATISSIMA.

BY A FLOWER GARDENER AT DEERHURST LODGE.

I HAVE read over with interest the remarks in the *CABINET* which have been made on the *Luculia gratissima* from time to time, wherein it is so deservedly spoken of as deserving a place wherever it can be grown. I do not recollect it being mentioned as a plant of the easiest culture, but rather difficult, and can only be bloomed when the plant becomes of a large size; such as is described is in the collection of Mrs. Lawrence, of Ealing Park; being eight feet high, and having large spreading branches; producing one mass of fine heads of its lovely rose-coloured highly-fragrant flowers. I possess a very

large plant, which I grow in a pit in my plant-stove. In March, 1844, the plant had increased so rapidly that I was under the necessity of shortening the branches; having done so, I cut the ends of the shoots off; each about five inches long; and inserted them tight in pots, filled firmly with sand and loam, equal parts. I had them placed in a hot-bed frame, and nearly every one was well rooted in a month. I then potted them off singly into small pots, put them in the frame for another ten days, to induce them to strike fresh roots, &c.; at the expiration of which they were removed into the plant-stove; selecting a part not the hottest: they continued to grow in these pots, in a rich, rough, sandy loam, and turfy peat, till the end of August, when I planted them in 36-sized pots. I was much gratified to find that every plant produced one large head of flowers, as does the common Hydrangea. Being so well pleased with the production, I resolved to adopt the same method this season, and cut off the ends of a dozen shoots; those which appeared the best ripened ones, having plump buds. I treated them as before mentioned, and now I have a most beautiful bloom; each plant being from one foot to two feet high; some of the heads measuring nearly a foot in diameter. I give them once a week a good soaking of manure water at the roots, after I first see the heads of flowers are formed. A rough compost and free drainage are indispensable.

Just before the blossoms begin to open, I remove some of the plants into the greenhouse, where they bloom admirably, and continue through the winter. My greenhouse is kept dry; so that the blossoms do not damp off, as otherwise I find they would. The plant blooms very successfully in a sitting-room, and sheds a delightful fragrance therein. The plant is in all respects as easy to manage as the Hydrangea above named. Every stove, conservatory, and greenhouse, should possess it.

ARTICLE VII.

OBSERVATIONS ON THE BENTHAMIA FRAGIFERA, (CORNUS CAPITATA OF SOME PERSONS).

BY A CORNISH MAN.

IN the CABINET for March, 1834, a coloured figure of the fine fruit of this beautiful hardy evergreen plant is inserted, and the fol-

lowing particulars relative to it are given; as numerous readers of the work may not have seen the remarks, I beg their insertion at the present. "*Benthamia fragifera*.—We are at a loss for words calculated to give expression to our admiration of this most truly splendid evergreen shrub. Seeds of it were sent by Sir Anthony Buller, during his residing in the East Indies, to his relative, J. H. Tremayne, Esq., Heligan, in Cornwall, in whose garden the plant was raised by the very worthy gardener, Mr. Roberts, who has had the honour and pleasure of raising, flowering, and fruiting, for the first time in Europe, this unrivalled hardy shrub. The fruit in the figure is from the finest on the branch sent us. The flowers are terminal, and surrounded by an involucre two inches across, of four yellowish parts resembling petals. The real flowers are of a whitish green, small. The profusion of both parts, in the heads of flowers, render them very showy. The flowers are succeeded by a profusion of splendid fruit, which, from their weight, are somewhat pendulous; the appearance during autumn and winter must form a most delightful object. The flesh is rather insipid, and slightly bitter to the taste, but somewhat agreeable. It is of a yellow colour inside. The plant was raised in 1825, and has been planted out in the open air; it has not required even the slightest protection during winter. It is growing in a strong soil. The bush is now seventeen feet high, and spreads proportionably. It is readily increased by seeds, layers, or cuttings, struck under a hand-glass, using a loamy soil." My residence being about thirty-six miles from Heligan, I had an opportunity of seeing the shrub in beauteous condition. I then obtained a fine plant, which is now nearly as high as the original plant, but of course not so strong. It bears fruit profusely every season. The situation it grows in has an open south aspect, sheltered on the other three by a thick yew fence, belted by a plantation, buildings, &c. The grounds are upon the south slope of a hill, dry, warm. It was planted in the open air at first, in a rich loam, upon a dry substratum, and from that time to the present has not had the least additional protection, nor has it been in the least injured by winter, frosts, &c. On one occasion the temperature was down at 14° Fahrenheit, and several other times exceedingly severe. Some persons have doubted whether it could be grown successfully in the open air generally in this country. I have seen it flourish in Devon-

shire, Wiltshire, Sussex, and Yorkshire, and I am nearly confident, if the situation be somewhat high, dry, and sheltered from cutting winds, that it will grow well in any part of England, and most certainly ought to be in every shrubbery where it can be grown. Plants of it can now be procured at a trifling cost.

I have not visited Heligan since 1834, but a friend of mine saw the original plant last summer, and informs me that it is about eight yards high, spreading proportionately; and the trunk is two feet in girth near the ground, and carries up a gradual fine main trunk.

ARTICLE VIII.

ON GROWING THE CALLA RICHARDIA (FORMERLY *C. ÆTHIOPICA*) IN THE OPEN AIR.

BY A LADY AMATEUR GARDENER, NEAR BELFORD, IN NORTHUMBERLAND.

My last communication on the planting out of *Geraniums*, *Verbenas*, &c., was so kindly received, that I am encouraged to hazard a few words on the *Calla Æthiopica*, or, as it is now styled, the *Calla Richardia*.

It is not, I believe, very generally known, that this beautiful plant will flourish in the open air. I have, however, tried the experiment with several during the past season in my own flower garden, and with complete success.

About the beginning of June, after they had done flowering in the greenhouse, I turned them out of their pots into the open ground, in clumps of four or five, so that one or two at least of the group might be constantly in bloom.

The cold winds with which we were at that time visited rather cut them, but fresh leaves soon began to push, and they blossomed as freely and stood much longer than they had ever done in the greenhouse; and another year, should it be required, a few Fir branches will effectually protect them when they are first put out.

It should be borne in mind that the *Calla Richardia* is a water plant, as its English name, "Lily of the Nile," demonstrates, it ought, therefore, at all times to be well supplied with water, and doubly so should the season prove a dry one.

As an encouragement to timid florists, who may imagine that the *Calla Richardia* requires a very fine aspect, I beg to say that my

flower garden is situated on the eastern coast of Northumberland; and slopes from the sun, instead of to it; yet notwithstanding these disadvantages, my plants were not taken in before the end of October, and they might have remained even longer with perfect safety.

[We shall be obliged by further communications.—CONDUCTOR.]

ARTICLE IX.

ON GUANO.

[WE have not previously introduced much into our Magazine on the use of Guano, in its application to flowers; a great deal has been wrote upon it in other publications, and some very opposite statements made. There are horticulturists in theory who applaud almost everything new, and those who reposed confidence in their statements, and embodied it in practice, have, in numerous instances, incurred an expensive loss. It has been our course to wait and ascertain practically, before we either commend or condemn. The following particulars are from persons who have tried the use of Guano for some time, and to a considerable extent; we did so with some pot plants last summer, and found its application produce the best effects on Fuchsias and Pelargoniums.—CONDUCTOR.]

On the application of Guano to flowers, whether in the open ground or in pots, the following particulars are instructive:—

Mr. T. E. Teschemacher addressing the Horticultural Society of Massachusetts, stated—

“In the following experiments, I will first observe, that all those plants which were treated with Guano, were potted in a mixture, consisting of plain earth without any manure, sand, and a little leaf-mould, and peat, with which the Guano was mixed; that those plants which are compared with them, have been grown in the richest compost, and that both have had the same attention, and been grown otherwise under the same circumstances. *Fuchsia fulgens*: one year seedling, potted 17th of June, when two and a-half inches high, with one tea-spoonful of Guano; re-potted 9th of August, then twelve inches high, with another spoonful of Guano, is now a foot and a-half high. The contrast between this and the two-year old plant is very striking, both as to luxuriance of growth and colour of the foliage, the plant with Guano being vastly superior. I think also

that the colour of the flowers is improved ; it is well known among gardeners that it is rather difficult to grow this plant well. *Pelargoniums*: two seedlings grown with Guano, and one of the same sowing without ; on the 17th of June, the two former were potted with one tea-spoonful of Guano, and re-potted on the 9th August, with another tea-spoonful ; here also the difference in favour of Guano is very great. *China roses*: two cuttings, potted 17th of June, each with one tea-spoonful of Guano ; one was then seven inches high, the other four and a half. They are now thirty-four and twenty-eight inches high respectively, with large healthy foliage and stems ; these have not received a second application of Guano. *Celosia cristata*, or Cock's-comb : one seedling, with one tea-spoonful and one of the same sowing without ; the size of the stem, foliage, and head of that with Guano is more than double that of the other, and the difference in the colour of the leaves is remarkable. *Salvia patens*, with one tea-spoonful of Guano—the effect here has been to lengthen the joints, and the flower appears smaller than usual. *Acacia Farnesiana*: a seedling, showing the size of the foliage and length of the joints previous to the application of a tea-spoonful of Guano, and the remarkable growth of both afterwards. *A. Camellia*, with two tea-spoonfuls : this specimen, which was quite small and unhealthy before the addition of Guano, as may be seen by the lower leaves, exhibits in a most marked manner, by its beautiful large deep green leaves and healthy bud the action of this manure. On a *Camellia* grown with a large proportion of fine wood charcoal, the foliage and buds are extremely fine and luxuriant, and of a healthy green colour, but not at all equal to that treated with Guano. One *Balsam*, two tea-spoonfuls ; re-potted 9th of August with two more, to which a little lime was added. This is an ugly specimen, which confirms an observation in the “Gardener's Chronicle,” that *Balsams* manured with Guano produced smaller flowers. I have watched it carefully, and found that not a single flower missed bearing its seed-vessel, and that every seed-vessel I have opened contains from fourteen to twenty perfect seeds. From what I have seen of Guano, it is clear that its action is rapid and powerful on the stem and foliage, increasing their size and deepening their green colour ; of this fact there can be no doubt. I think it probable that it diminishes the size of the flower in some cases, and that it improves the seed both in

quantity and quality ; of this, however, more experiments are required to prove the certainty. When those plants were re-potted, which received a second application, the roots were very numerous, and appeared in the most vigorous health—thick, succulent, pure white, the tips with that hairy appearance so well known to cultivators as a sign of strong growth. In Peru, it is customary, when using Guano to raise pepper, to manure three times ; first, on the appearance of roots, then on the appearance of the leaves ; and, lastly, on the formation of the fruit. I think the experiment of its action on all fruits, particularly the larger fruit trees, as apples, pears, peaches, &c., will be extremely interesting, as well as on the vine, which is well known to be excessively greedy for rich food, particularly for bone manure, the chief ingredient of which, phosphate of lime, Guano contains in considerable quantity.”

Mr. Teschemacher then states that Guano contains, in large proportions, the ingredients necessary for the growth of plants in general, and for the maturation of seeds.

(To be continued.)

ARTICLE X.

ON BLOOMING THE THUNBERGIA CHRYSOPS.

BY A PRACTICAL FLOWER GARDENER.

As there has been some difficulty in flowering the *Thunbergia chrysops*, perhaps the following may be useful to those who may not have succeeded in flowering it.

Last May I procured a small plant, and after it had filled the pot with roots, I potted it into a six-inches pot, in a mixture of loam and leaf mould (equal parts) ; the plant grew and flourished beautifully, but no signs of flowering. I commenced in October to stop every shoot at the third or fourth joint, taking care not to allow them to get more than one joint above where I stopped them, and now, to my great delight, my plant is almost covered with bloom, and shows indications of continuing so for some time to come.

I may state that it is trained in a pyramidal form, and having taken care to keep a sufficient quantity of young shoots close down to the top of the pot ; it is a very beautiful specimen.

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ADENOCAULYMNA COMOSUM. HOP FLOWERED. (Bot. Mag. 4210.) Bignoniaceæ. Didymia Angiospermia. (Synonym, Bignonia comosa.) A native of Brazil and Guiana. It is a tall climber, and trained neatly in the hothouse, makes a brilliant appearance with its very numerous racemes of large rich yellow trumpet-shaped flowers. Each blossom across the mouth is about two inches. It is very likely to flourish in a warm greenhouse or conservatory, and well deserves to be in every one. It is in the collection at Kew Gardens.

ABELIA RUPESTRIS. ROCK ABELIA, (Bot. Reg. 8.) Caprifoliaceæ. Pentandria Monogynia. A native of China, found by Mr. Fortune, amongst rocks on Chamoo Hills, and sent to the Horticultural Society. It is a small spreading bush, producing its numerous flowers in whorls, as many of the Honeysuckles. The corolla is about an inch long, pure white, and the calyx rose coloured. It flourishes in the greenhouse, but as it grows in China, in situations where the Hydrangea does, it is very likely to endure the climate of this country, trained against a good aspected wall.

DENDROBIUM DALHOUSIANUM. LADY DALHOUSIE'S. (Bot. Reg. 10.) Orchidaceæ. Gynandria Monandria. From India, but what part thereof not known. It is in the Chatsworth collection. The flowers are produced on stems three to four feet high. They blossom in an horizontal raceme. Each flower is about four inches across, white, with beautiful pink edges, and on each side of the tip has a large rich crimson-red spot. It is a very noble and beautiful species, deserving to be in every collection. It has bloomed at Chatsworth, and with Messrs. Loddiges's.

ERICA CAVENDISHIANA. THE DUKE OF DEVONSHIRE'S. (Pax. Mag. Bot.) Ericaceæ. Octandria Monogynia. Erica depressa had been impregnated by the pollen of E. Patersonia, at Messrs. Rolliesson's, of Tooting, and one of the produce was the present variety. It is one of the handsomest, and is so much noticed as to be exhibited in almost every collection at the London shows. The rich yellow flowers produced in vast profusion, each an inch long, give a beautiful appearance. The shrub, too, is a neat erect grower, and easily kept as a handsome pyramidal bush. It deserves to be in every collection. It may be had of most of the general nurseries.

FRANCISCA HYDRANGÆEFORMIS. HYDRANGRA LIKE. (Bot. Mag. 4209.) Scrophularinæ. Didymia Angiospermia. It was discovered by Mr. Gardner, on the Organ Mountains, in India. It is a robust looking shrub, about four feet high, growing in its native country in moist places, in the forests. The leaves are six to eight inches long, and about three broad. The flowers are produced in a close raceme or cyme, of a rich blue-purple, becoming nearly white with age. Each blossom is about an inch and a half across. It does best grown in the stove.

GLOXINIA PALLIDIFLORA. PALE FLOWERED. (Bot. Mag. 4213.) Gesneriaceæ. Didymia Gymnospermia. It was sent from Santa Martha to the Royal

Gardens at Kew. It is somewhat in the form of the old and beautiful *Gloxinia maculata*, the flowers a trifle less, similar in shape, and a paler colour. It is a very pretty flowering species.

HIBISCUS JERROLDIANUS. Mr. JERROLD'S. (Pax. Mag. Bot.) Malvacæ. Monadelphia Polyandria. Dr. Lippold sent seeds of it from Brazil. It is herbaceous, and planted in the conservatory at Chatsworth; grows from four to nine feet high, with numerous shoots, which produce a profusion of large, rich, splendid crimson flowers, through summer and autumn. It requires a hothouse, or very warm part of a conservatory. It is increased by division of the roots. Each flower is about five inches across, single, but brilliant in colour.

MORMODES CARTONI. Mr. CARTON'S. (Bot. Mag. 4214.) Orchidacæ. Gynandria Monandria. From Santa Martha, by Mr. Purdie to the Royal Gardens at Kew. The flowers are produced in an erect scape six inches long, they are yellow, with red streaks. Each blossom is about an inch and a half across; very pretty.

PLATYCODON GRANDIFLORUM. GREAT FLOWERED. (Pax. Mag. Bot.) Campanulacæa. Pentandria Monogynia. Sent to the Horticultural Society by Mr. Fortune, from China. It has bloomed at Brooklands Park, Blackheath, in Kent, under the skilful attention of Mr. Ayres. It has been considered by Dr. Lindley to be the same as the old *Campanula grandiflora*, but many consider it much different. The flowers are produced solitary, on longish stalks, terminal. Each blossom is about two and half inches across, deep blue, with a dark circle near the centre. It was grown in the hothouse at Brooklands. It strikes readily from cuttings. During the early part of its growth, the plant showed no sign of branching, but the lead being stopped, it soon branched and blossomed. It is very handsome, and probably as hardy as *C. pyramidalis*.

PÆONIA WITTMANNIANA. THE YELLOW PÆONY. (Bot. Reg. 9.) Ranunculacæ. Polyandria Pentagynia. Probably from Taurian Caucasus, it was however received by the Horticultural Society, from the Nikita Garden, in the Crimea. It is quite hardy, blooms in May. The flowers are single, about four inches across, a beautiful yellow, with stamens and pistillum, tinged with red. It is a remarkable acquisition. Twenty-five guineas was lately demanded for a plant at one of the large continental nurseries.

RUELLIA MACROPHYLLA. LARGE-LEAVED. (Bot. Reg. 7.) Acanthacæ. Didynamia Angiospermia. From Santa Martha. It has bloomed in the fine collection at Sion Gardens, in the hothouse, growing freely, and blooming beautifully. The flowers are produced in branching panicles, and are a rich carmine-scarlet colour. They are about the size of the old, very handsome, *R. formosa*. The leaves are six inches long, and near four broad. It is a fine species, readily increasing by cuttings. Like all *Ruellias*, it does best in a moist atmosphere, and it is essential to successful culture, very frequently to syringe them, so in this instance, or the red spider will voraciously attack it. It is most successfully grown in the Duke of Northumberland's collection, and it deserves a place wherever practicable.

SINNINGIA VELUTINA. VELVETY. (Bot. Mag. 4212.) Gesneriacæ. Didynamia Angiospermia. From Brazil, it has bloomed at Kew, in the stove. The stem about three inches high, and about half an inch thick. Leaves large; flowers solitary, tube two inches long, the limb spreading, so as to be over the mouth an inch and a half across, a greenish-yellow colour.

STACHYTARPHETA ARISTATA. BASTARD-VERVAIN. (Bot. Mag. 4211.) Verbenacæ. Diandria Monogynia. From South America. We saw it in beautiful bloom last autumn, in the hothouse at Kew. It is half shrubby, branching, producing numerous long, terminal spikes of very rich deep blackish-purple flowers. It is a beautifully striking plant, and well deserves to be in every collection.

DESCRIPTIVE CATALOGUE OF NEW CAMELLIAS (*continued from page 44*)

- Feastii**, very large, imbricate formed petals, and superb shape; white spotted, and striped with rose.
- Felicitas**, delicate rose; very handsome.
- Frosii**, imbricate, deep red, shaded with purple. A very abundant bloomer, and one of the most superb.
- General Washington**, imbricate, white, blotched and striped with beautiful rose; very beautiful.
- Globe Crimson**, fine rich crimson.
- Gloria delie Isole Borromee**, imbricate, the centre beautiful rose, spotted with red, and edged with white; very fine.
- Gloria del Verbano**, imbricate, red, with spotted and striped with white; very fine.
- Governativa**, very large and very double, imbricate, deep carmine; handsome.
- Grand Duchessa d'Etruria**, pæony formed, glossy white, striped with rose; very beautiful.
- Imbricata magna**, very double beautiful rose.
- Jubilee (Low's)**, very large, fine imbricate form, white, with tinge of flesh colour, veined and striped with rose. A fine centre of cream colour, or pale yellow.
- Jupiter**, fine imbricate form, salmon colour, with a white streak up the centre of each petal.
- Lainatensis**, pure white, fine imbricate form; very double and handsome.
- Leopoldina d'Italie**, very large and pure white, spotted with rose, and striped with red; very handsome.
- Lowii**, fine imbricated form, and deep carmine; very handsome.
- Madonna**, fine imbricated form, very large, pure white, with a carmine centre; very superb.
- Maneghini**, fine imbricate, very double, deep carmine, with white spots in the centre.
- Maria Eliza**, red and white, in irregular portions; very handsome.
- Maria Teresa**, fine ranunculus formed, white tinged with flesh, and marked with delicate carmine; very superb.
- Napoleone d'Italia**, very large, rich red, with large patches of white; a very beautiful flower.
- Neoboracensis**, very large and beautiful, deep bright red, with white stripes up the centre; handsome.

THE DEODAR, OR INDIAN CEDAR (*Cedrus Deodara*).—This tree is one of the loftiest and grandest of the Coniferæ. In England it is as yet merely a graceful object; so that whether it will eventually assume the dignity belonging to its kindred of the Himalaya is a matter purely of conjecture. Its being perfectly hardy, like the Cedar of Lebanon, has secured it a place in every British collection of Pines; though it has to be regretted that so many of the specimens foisted upon the unwary are merely cuttings grafted upon the common Larch, which, as is well known, is a comparatively low-growing tree, and is besides a deciduous one. The noble nature of the Deodar, therefore, when allied with this object, is scarcely to be expected; and, from the specimens we have seen so treated, it is already apparent that the scion outgrows the stock, and that the demand upon the latter is more than it is prepared to respond to. To remedy this, as far as possible, the best way is to dig out the soil by the side of the tree, and to lay it down so that the part above the stock may take hold and hereafter grow upon its own roots.

The cones of this tree resemble those of the Cedar of Lebanon, and are ripe in the months of November and December, when they fall off like the Silver Fir cones. They may be crushed into pieces even with the hand, and the seeds are then easily picked out; the good ones are plump, whilst those which are useless are flat and shrivelled. During the month of May a light friable piece of ground should be selected (and in the climate of England it will be all the better to be shaded), and, after being dug and raked, the seeds should be sown in beds, in the same way as Larch seeds are sown, viz., by covering them to the depth of two-thirds of an inch. The plants will appear in June, and in those beds they

may be allowed to remain for two years, keeping them free from weeds; they should then be transplanted into lines, and treated in every respect the same as the common Larch tree. The system of keeping them in houses is just as absurd as growing the common Scotch Pine in heat, or any other plant which is equally hardy.

According to all accounts, the wood of this tree is very durable and easily worked; but as it claims attention at present chiefly as a landscape ornament, planters would do well to take advantage of this graceful object, and grow it around their residences and on the bolder parts of their parks. The soil it delights in most is a sandy loam, and the situation a northern exposure. Under those circumstances it is already rearing its beautiful form on several hills throughout the north of Scotland.

ON THE MANAGEMENT OF IMPORTED SEEDS.—Upon the arrival of a box of seeds, my mode of proceeding is this:—supposing them to arrive in the beginning or middle of summer, the different sorts should be sown in the soil best suited to the plants to be grown, although perhaps a light loam, with a mixture of leaf-mould, will answer for most of them while in the seed-pan. The seed should then be sown of the proper depth, which will in most instances be regulated by the size of the seeds, the larger nuts being sown one or two inches deep, while the smaller ones should be sown on the top of the mould, and then a mere sprinkling of mould be added, and afterwards a small sprinkling of white sand be put on the top. The object of this addition is to prevent the plants, on their first appearance, damping off, which all tender plants, but especially herbaceous ones, are apt to do. If the season be far advanced (for instance, the autumn), there is little inducement for pushing forward the germination or growth of the seeds, and the pans may be placed on the stage of the greenhouse for the winter. My great object in sowing them at what may be considered an unfavourable season is more with a view to prevent the loss of vitality, by keeping them in an intermediate state of dampness and dryness, than by keeping them in their packages all the winter.

If, however, it be either in spring or the earlier part of summer, or indeed not very late in the season, I put the seed-pans in a hotbed or other place where they may get bottom heat; and I conceive that an error takes place in this respect, by supposing that much bottom heat will injure the heads. This I do not think is the case; many seeds require a very considerable bottom heat to make them germinate, especially if they are weakly, and perhaps imperfectly ripened; the chief danger will be after the plants begin to make their appearance. While in this state too much heat will of course destroy the plants; they must be kept tolerably damp if in heat; and the heat, if very great, must be moderated by raising the glasses and shading the plants, which will be treated much in the way that our common flower seeds are treated; that is, they must be gradually hardened, and shifted into separate pots, the size of which will be regulated by the kind and size of the future plant, and which cannot be entered into minutely. The soil in the new pots may be made more to resemble that which they will probably require when they are larger plants. In general, with herbaceous plants, which are more likely to damp off, a little white or common sand will be placed at top to absorb the superfluous moisture, and the pots should be placed in a drier situation than is necessary with woody plants. The plants may very soon be placed in the temperature best suited for them, according to their native climate, either in the stove, the conservatory, or greenhouse, or the open air; observing, in general, that any change of temperature must not be made too suddenly; but, as the gardeners say, the plants must be hardened or prepared for it. When the plant is intended for the stove, or conservatory, or greenhouse, but little preparation will be found necessary; but when it is to go to the open border it can be prepared by being removed to a cool frame, as it is called; that is, a frame where there is no artificial heat produced by dung or fire, and the glasses will be removed or raised in favourable weather. In summer the pots may be very soon placed out, rather in a shady place; and in the course of every ten days they may be fully exposed; observing, however, that they must be watered occasionally in the evenings, when the weather is dry.—*A Practical Plant Grower.*

IPOMÆA LEARII.—An old subscriber to the *FLORICULTURAL CABINET* would be grateful for directions for blooming the *Ipomæa Learii*. She has had a plant in a warm greenhouse for several years in a large pot; it thrives and throws out long branches, but scarcely ever flowers.

Quite late in the autumn sometimes two or three blossoms expand, but never more. What soil suits it? Does it require more heat than a greenhouse? Should it be cut in every winter, or should the branches be allowed full growth? Would it do better with more or less space for the roots.

Bromley.

[Very far the most superior plant we ever saw in bloom was at Mr. Knight's nursery, King's Road, Chelsea. In July, 1840 we saw this splendid plant in most profuse bloom, having about 500 expanded blooms. It was growing in a low plant stove, which was kept somewhat hotter than a greenhouse. It was grown in a bed at the corner of the stove, in a rich turfy loam and peat, having several inches of broken pots, &c. forming a drainage. The branches were trained at several inches apart, to a wire trellis which extended over the two sides of a double roofed house. The plant was in vigorous growth. The shoots are pruned in each winter, and regularly thinned, so as each wire has but one to support.—CONDUCTOR.]

ON ACACIA ARMATA, AND ON THE USE OF GUANO FOR FLORISTS' FLOWERS.—I should feel much obliged if you, or some of your esteemed correspondents, would give me some information on the propagation and cultivation of *Acacia armata*; and likewise if Guano may be profitably applied to florists' plants, and how?

Lynn.

T. S.

[All kinds of *Acacias* require to be grown in a compost of equal portions of rich sandy loam, peat, and leaf-mould, and have a free drainage. They must be placed in the greenhouse, in a light and airy situation. They bear cutting in; and in order to have the plant bushy, such attention will effect the desired purpose. This treatment is specially necessary with some of the tall slender-growing species. Most of them, specially *A. armata*, produce seeds; and if soaked before sowing, and afterwards placed in a hot-bed frame, &c., there, too, kept moist, not wet, they will come up, as it is termed, in ten days or a fortnight. A piece of coloured glass placed over the pot, it is said, materially promotes the seeds vegetating, &c. Cuttings obtained from young shoots, when the lower portion is become somewhat firm, cut clean off at their origin, then dressing off the leaves about half the length by means of scissors or a sharp knife, and inserting them firmly in white sand, watering, and, after drying a little, covering them with a bell glass, and place in a hot-bed frame, with subsequent due attention; they readily strike root. If some of our florist friends have applied the guano, we shall be obliged if they will favour us with the results, in order to meet our correspondent's request.]

ON RHODANTHE MANGLESII.—On visiting one of the London nurseries lately I was astonished to see numerous pots of *Rhodanthe Manglesii* in vigorous and profuse bloom. I remember too, last September, seeing fine bushy groups of them growing in the open border, I asked for information, how they were thus grown, but I could not ascertain. I should be glad of any information how to grow it thus fine, as the specimens I saw were six times larger than any I ever grew.

AN AMATEUR.

[Sow at twice; first in February, and raise in moist heat, in loam and peat finely sifted over the seeds, and never allowed to be dry, but not to be kept wet; pot off singly as soon as can be safely done into small, well-drained pots, but not to have silted soil: after this, encourage them in a gentle heat and gradually inure them to the greenhouse, keeping them near to the glass. Re-pot when requiring it, in manner and soil as before named; pinch off all first flowers to cause shoots; such treated plants will bloom fine till autumn. Kept in the greenhouse, or turned out at the end of May entire, into the open bed, in a

warm and sheltered situation, will bloom to the end of the season. To have plants to bloom in spring and early summer, sow seed the end of August, plant in small pots, and keep them from frost in the greenhouse, in a dry situation, or in a cool frame during winter, and repot them in February following, pinching off the first blooms, as before observed, to cause the production of lateral shoots. We have grown plants in this way half a yard high, and quite bushy.

CONDUCTOR.]

ON THE CHRISTMAS ROSE.—I am desirous to have next winter a bed of the Christmas Rose, but the same situation to be occupied by some other flower during summer. Will the plants do to be taken up, and be kept dry till the end of summer, and then be planted with a certainty of blooming? If so, at what period should they be planted? A list of a few kinds, too, will additionally oblige

S. S.

[When it is desirous to remove them from the bed, take them with as entire balls as possible, and replant them in good soil and a suitable situation; water them well as soon as planted. At the end of the summer season remove them to the winter situation with as much care as possible, water, &c., and they will bloom satisfactorily. Or grow them in large pots during summer, attend to them properly, and then turn them out into the bed, or plunge the pots overhead, and thus save the trouble of repotting, &c.]

Helleborus atro-rubens, purple; *H. dumetorum*, green; *fœtidus*, green; *lividus*, purple; *niger*, pink; *odorus*, green; *purpurascens*, purple and green; *vernalis*, white; *viridus*, green; *orientalis*, bluish; *cupreus*, copper colour; *pallidus*, white and green.]

Floral Operations for March.

AMARYLLISES, and other liliaceous bulbous plants which have been kept dormant, may now be re-potted, and put into an increased temperature.

ANNUALS, HARDY, such as *Clarkias*, *Nemophilas*, *Larkspurs*, &c.—If the soil be moderately dry, some of the most hardy kinds, to bloom early in the summer, may be sown in warm parts of the country, or situations well protected, but in cold places not until the end of the month; for if the seeds of many sorts begin to vegetate, and frost operate upon them, they are often destroyed. The best method of sowing the small seeds in patches is to have a quantity of finely sifted soil; spread a portion where desired; after scattering the seed, sprinkle a little more soil over them, and then press it closely upon the seeds, which will assist them in vegetating properly.

ANNUALS, TENDER, such as Cockscombs, Balsams, Stocks, &c.—Such as have been sown, and may be up, should have all possible air given to prevent their being drawn up weakly. In watering those in pots they must not be watered over the tops, or many of the sorts will be rotted by it. The best method is to flood over the surface of each pot, always using water that is new-milk warm. Those annuals sown in frames must be watered (when requisite) with a very fine syringe, or pan-rose to sprinkle with; but the best plan is to take advantage of gentle rains. For any seeds yet requiring to be sown, use fine soil pressed to the seeds; and, when convenient, place the pots (if used) in moist heat till the plants are up. Cockscombs, *Amaranthus*, *Balsam*, *Browallia*, *Brachycoma*, *Thunbergias*, *Maurandias*, &c., if large enough to pot, should be done in sixty-sized pots.

AURICULAS.—Those requiring top-dressing should be done immediately, by taking off about two inches deep of the top-soil, replacing it with some very rich; more than one-half of it should be rotten cow-dung two years old, and the rest loam and sand. Immediately after this dressing, let the soil be well settled by a free watering. By the end of the month the unexpended blossoms will be nearly full grown; no water must be allowed to fall on them, or the blossoms would be liable to suffer injury by it. All possible air may be admitted to the plants during the day, only screen from cutting frosty winds.

CAMPANULA PYRAMIDALIS—to have fine pot specimens, should be potted, if not before done, and encouraged to grow.

CARNATIONS—at the end of the month, the last year's layers kept in pots or beds during the winter should be planted off into large pots 12 inches wide at the top, 6 at the bottom, and 10 deep. In each pot three plants may be placed triangularly, not planting deeper than to fix them securely. The following compost is most suitable:—Two barrows full of fresh yellow loam, three of well-rotted horse-dung, and half a barrowful of river-sand, well mixed; plant in it *without sifting*, but breaking very well with the spade, and have a free drainage of rough turf, &c.; place the plants in a sheltered situation out of doors.

CREEPERS—and twining greenhouse or hardy plants, should be pruned and regulated before they begin to grow.

CALCEOLARIA SEED—should be sown early in the month, having the finest sifted soil for the surface.

CHRYSANTHEMUMS—sow seed of, and raise in moist heat. Mind the suckers of old plants are not drawn up; admit duly of air.

COMMELINA TUBERS and *Tigridia* bulbs should now be planted.

CUTTINGS of *Salvias*, *Fuchsias*, *Heliotropes*, *Geraniums*, *Celsias*, *Alonsoas*, *Lotuses*, *Senecios*, &c., where it is desired to plant such out in beds, should be struck in moist heat as early as possible. Young shoots, cut off clean, strike readily. (See kinds of plants suitable, in vol. i., p. 38; and for additional kinds, subsequent vols.)

DAHLIAS—if not already put into excitement, should be done as early as possible. Seeds should also be sown, placing them in a hot-bed frame till up. Cuttings be taken off and struck in heat.

ACHIMENES, *Gesneria*, *Gloxinia*, and *Tropæolum* bulbs, &c., that have been kept dry during winter, should now be potted, and gently brought forward in heat.

HERBACEOUS perennials, biennials, &c., should now be divided, if required.

PELARGONIUMS.—Cuttings now put in, struck in a hot-bed frame, and potted off as soon as they have taken root, will bloom during autumn.

POLYANTHUSES—should now be top-dressed, as directed for *Auriculas*, only the soil need not be so rich. Seed may now be sown; the best method is to raise it in heat, harden gradually, and transplant when large enough.

RANUNCULUSES and **ANEMONES**—should now be planted, taking care no fresh applied dung is in the soil, nor should the ground to plant in be lightened up more than two inches deep. The soil of the bed should be half a yard deep at the least. The best roots for flowering are such as have the crowns high and firm, with regular placed claws. Another bed, planted a fortnight later, brings them into bloom, so as to assist a florist to select for a show.

ROSE TREES—not yet pruned, if allowed to remain untouched till the shoots of the present coming season be about an inch long, and be then shortened by cutting back all the old wood to below where the new shoots had pushed, the dormant buds will then be excited, and roses will be produced some weeks later than if pruned at a much earlier season. Plants in pots now put into heat will come into bloom in May.

Rose Trees, *Lilacs*, *Pinks*, *Hyacinths*, *Narcissuses*, *Honeysuckles*, *Primroses*, *Double Furze*, *Dwarf Almonds*, *Rhodoras*, *Persian Irises*, *Sweet Violets*, *Cinerarias*, *Azaleas*, *Hepaticas*, *Lily of the Valley*, *Jasmines*, &c., should still be brought in for forcing.

TUBEROSES—should be planted, one root in a small pot, using very rich sandy soil; the pots should be placed in moist heat till the plants are up a few inches; then they may be planted into larger pots, and taken into a stove, and finally into a greenhouse.

TULIPS.—At this season, such as happen to be affected with canker will appear sickly; the roots should be examined, and the damaged part be cut clean out. If left exposed to sun and air, the parts will soon dry and heal. Avoid frosty air getting to the wound by exposure.

SEEDS—of greenhouse and similar plants may now successfully be sown, raised in moist temperature.

Univ. of
California



PENTSTEMON GIGANTEA ELEGANS.

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,

APRIL 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

PENTSTEMON GIGANTEA ELEGANS.

WE received the drawing of this very splendid flower from Messrs. Benton and Co., Nurserymen, of Monument-lane, Edgbaston, near Birmingham. The plant grows very vigorously, rising from four to five feet high, and blooming profusely. When Messrs. Benton and Co. advertised it for sale, last November, the original plant had more than one hundred spikes of flowers. The foliage too, they add, is very handsome. The plant is quite hardy, and merits a place in every flower garden, where it would be one of the most showy and ornamental flowers. It is easy of culture, grows freely, and readily propagated, so as to be perpetuated without difficulty.

ARTICLE II.

PREFATORY OBSERVATIONS ON THE CULTURE AND PROPAGATION OF WHAT ARE USUALLY TERMED FLOWERING PLANTS.

BY J. E. M.

A TASTE for the cultivation of flowers is now being so extensively diffused, that I think it would not be without its use to endeavour, through the medium of the CABINET, to draw the attention of young amateurs to an observance of some of the more prominent laws on which are founded the successful practice of plant cultivation.

VOL. XIV. No. 158.

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It is a well known, though much neglected, fact, that all plants must have, shorter or longer, a period of entire rest and repose; were the amateur to keep this fact constantly before him he would have much fewer losses to regret, and a far healthier collection than is too generally the case. That this rest, or repose, is necessary, we have only to point to all nature around, and ask what it is that imparts to winter its dull and deathlike appearance? We answer, nothing but this universal sleep of nature—this cessation from the vigour and activity of spring and summer. Now, in this instance, as in all others of a like nature, if the cultivator will have success, he must copy nature, for he may rest assured that she does nothing in vain; and in proportion to the faithfulness in which she is followed will the measure of success be. It must ever prove a vain and abortive course to force on the growth of plants when they ought to be dormant. In this state of hybernation they are collecting a store of nourishment which, when the proper season arrives, will enable them to perform all the various functions for which they are eminently adapted. Having attained the truth of this natural principle of vegetable repose, it can be turned to good account in the artificial way in which plants, for the most part, must be kept in our plant structures. We can assist, hasten, retard, or complete the work, as circumstances may dictate, and seeing that this is the most favourable condition for plants sustaining unhurt the rigour and severity of winter, the cultivator will at once perceive the importance of observing this, and allowing his plants to come into this condition before the strength of winter overtake them in a growing and succulent condition; and, moreover, they will require to be treated while in this condition almost as if they were dead; they require no stimulants whatever, for if heat and water were to be administered at this season, a spring time is created in the house while there is little sunlight, and a cold dull winter abounds without. Through this perversion of an universal law, plants are not allowed the necessary rest, but are forced to dwindle on, for they cannot be said to grow, and are robbed of all the material necessary to promote vigour; hence, every expectation is blasted, every hope frustrated, through ignorance of a principle which may be seen in full operation, by all who choose to use their senses. Nothing than this is more common among amateur cultivators; they are anxious to anticipate, while they commit a fatal

error; they are anxious to speed, while they are doing all they can to impede.

However, all plants do not require the same length, or perhaps the same season of repose; but the law is general, and the exceptions must be corrected in practice. A good collection may contain plants from all the quarters of the globe: some may have been obtained from the recesses of the forest, where sunlight never shone on its retreat; others from the mountain side, where a pure air and clear light was ever around it: all this points out to the intelligent cultivator the necessity of making himself intimately acquainted with all that pertains to his plants individually; the country they come from, their widest range of distribution in that country, all the various elementary influences to which they are there subjected, the soil in which they attain their greatest luxuriance, both in flower and foliage; in fact, every fact connected with their native habitats becomes very useful in one way or other. Where this knowledge is attained cultivation becomes something more than the work of chance—it eminently ranks as one of the fine arts; in fact, it is only when thus followed out, that an intelligent mind derives from it that lofty degree of pleasure that it is so well fitted to yield, when the result of diligent study comes up to the standard of expectation, and success can be traced not to chance, but to skill and forethought.

Our advice to every amateur who can afford it, is to purchase some standard work on the physiology of plants, and make himself thorough master of it in all its details. It is not a dry and uninteresting theme, but one richly fraught with pleasure, and, moreover, he will be constantly seeing, in attending on his collection, illustrations of his studies. He will as certainly see cause producing effect in this as in any other art. He will learn to give impulse to the efforts of nature instead of obstructing her obvious relations; and this is the most common fault among amateur cultivators, they oftener kill through excessive attention than neglect; the means are different but the end is the same, death follows either.

He will also learn many useful lessons by keeping his eyes open when he has an opportunity of being in the country; every mountain, wood, and glade, are ever ready to offer some illustration of the great laws by which nature is governed. He will often see instances of plants having come under the influence of some accidental circum-

stance that has produced a new aspect. This may turn out important information, in fact information on which is based a great many varieties of cultivation; if a richness of flowering has been the result, it may be so in other cases; if luxuriance of foliage has followed, the same cause may produce a like effect; if gracefulness of outline, it will do so perhaps again. It will be for him to note these causes, to store up these facts, and make use of them as occasion may require. He may imitate, modify, or avoid, as best suits the end in view; no information of this sort, or indeed of any sort, is useless, it will come to his aid sooner or later; for the man possessing a general acquaintance with the internal structure of plants, and the various relations which the different organs sustain to each other, combined with an extensive knowledge of the numberless external effects and transformations produced by causes under his control, has an immense advantage over a person who cultivates his plants from mere verbal directions, or does as he sees, or has seen others do; he knows that in certain seasons such and such treatment is necessary, but he is ignorant *why* he ought to do so. Now plant cultivation is modified by so many circumstances, many of them beyond control, that to know that this treatment or the other is required is not all; he must know *when* and *why* it is necessary. If this knowledge from experience and observation be wanting nothing whatever can adequately supply its place. The best calendar of operations will not make a good gardener; their great use is merely to refresh the memory, for even were they as full and correct as it is possible to make them, the farther they travel from the climate to which they are adapted their value decreases, for the directions for one portion of the country does not apply without modification to all parts; for this reason, we look upon a work such as the *CABINET*, as rendering the most important service to amateurs, as any improvements are given as they are discovered, and that too at little expense. However, no work can supersede personal study and observation in the lover of plants; and we firmly assert, that if in this delightful pursuit nothing is done to thwart nature's laws, but all his exertions tend towards a free development of them, if they are judiciously assisted and impelled, the amateur, even with his artificial structures and confined root room, will have the most ample satisfaction and reward for his labour.

We have written this as a sort of preface to a few papers, illus-

trative of some of those leading principles on which plant cultivation and propagation ought to proceed. They are addressed specially to those amateurs, and they are increasing by thousands, who have not the means of purchasing extensive works on the subject, and who only require to have the true means of success explained to go on exultingly.

ARTICLE III.

REMARKS ON THE PANSY.

BY MR. WILLIAM JOHNSTON, BALLYKILBEG HOUSE.

Few flowers are more deserving of cultivation than the Pansy, whether we take into consideration its beauty, and the great variety of its colours, the extreme facility with which it is propagated, or the cheapness of fine sorts. In the first place, as to its beauty, and the variety of its colours, scarcely any flower can compete with it; the Tulip, "the king of flowers," can boast of red through all its shades, purple, and brown on white, and yellow grounds; the Pelargonium rises from the lightest shade of pink to scarlet and purple, some are white too; the Ranunculus varies from pink to purple and brown, in self, and edges and mottles on white and yellow; and the Rose, "the queen of flowers," has pink, red, white, yellow, and purple varieties; but the Pansy, the lovely spring, summer, and autumn-flowering Pansy, has white, yellow, blue, purple, purplish-crimson, and all the possible tinges and combinations of these colours among its gems. We do not wish to detract from the flowers mentioned above, far from it, for we love them, love them all; but we wish, in the present article, to direct attention more to the Pansy. If it is less cultivated than it once was, why is it so? it is not that the flowers are not so fine as they once were, for new gems, real gems, come out every year, though, of course, trash too, as to form sometimes. None, however, need buy without seeing; and, if the person intending to purchase is too far from an exhibition to see blooms there, the most of nurserymen would furnish them by post, if they got compensation for the postage.

This article is written for the special benefit of young amateurs, and we hope it may direct the attention of some such to the cultivation of this flower. Again, it is so easily propagated that one may

have quite a stock of a fine sort in a year ; while some of the other flowers we have noticed would require many years to obtain a good supply of them. Then as to the cheapness of the Pansy is another recommendation—a fine tulip, pelargonium, or rose, being very dear on its first introduction to the floral world ; while the Pansy is moderate in price, even on its first appearance. If the amateur plant but one bed in the year, autumn is the best time ; but if a succession is desired the Pansy may be planted at all seasons. In arranging the bed it may be well to attend to the position of the flowers, not to have those in proximity which resemble one another ; for instance, a blue and white one should be beside a yellow and purple one, and so on. A foot each way is about the proper distance for plants, if the bed is removed, or rather a fresh one planted every year, as ought to be the case. The raising of seedlings is another great source of delightful recreation to the amateur ; the seed should be sown in boxes in autumn, and the plants be transplanted into beds in spring. As the seedlings bloom all the inferior ones should be destroyed, and those only preserved which are essentially different from the varieties in cultivation. Of course the seed should only be sown of the finest sorts ; and we would recommend the laying in a good stock of fine sorts first, and of them sowing seed ; not buying seed, and expecting from it to have the finest sorts. Now we will conclude, first remarking that we hope we have not offended the tulip, pelargonium, rose, or ranunculus, which was very far from our intention, and we wish all who cultivate them every pleasure derivable from them ; but we wish to recommend to notice our ~~home~~ favourite, the Pansy, and may all who commence its culture as we have done, as a young amateur, derive the same pleasure from it.

ARTICLE IV.

REMARKS ON THE DOUBLE-FLOWERING WHITE AND PURPLE ROCKETS.

BY LOUISA.

IN a former volume of the CABINET I read some hints relative to the culture of that very lovely flower garden ornament, the fragrant double-flowering Rocket. It has been a pet of mine for many years, but previous to reading the hints alluded to, I had with much diffi-

culty just been able to keep a plant or two from one year to another, but by adopting the following sensible plan I have obtained an abundant supply, and with ease kept them, and had a vigorous bloom. No flower garden ought to be without them, their neat habit, beauty, and particular fragrance, alike recommend them.

“After reading all the known directions, and obtaining the best information from every possible source, my efforts to obtain strong and healthy plants of the Rocket were ineffectual ; I, however, after many fruitless attempts, happened to stumble on a plan of my own, that soon completely satisfied my ardent desires to have this favourite in perfection, and it is simply this : let as many plants as can be obtained the first season, be planted in a free and rich soil, in any open compartment of the garden ; they must not be allowed to bloom, but have every stem pinched off as it appears ; this will cause the production of numerous side-shoots, which must be taken off, as they form roots of their own, which may be ascertained by occasional inspection, and transplanted, six inches asunder, into a bed or border that has been previously made very rich by a liberal supply of old dung, and well watered till properly established. All will go on well then if the foliage is kept free from the ravages of that *sluggish* pest so well known to all cultivators, and which eats or gnaws indiscriminately almost every herb and flower of the garden, and particularly this, which is only truly valuable when grown exceedingly perfect and robust, and all who have seen it so, I think, must at once admit it to be a most splendid and desirable object of culture. For my own part, I have grown it to two feet high, one half of which has been an unbroken mass of the purest white bloom, to observe which in this matured state I must confess that I can feel less pride certainly, but quite an equal degree of pleasure, as when bending o’er the pencilled beauties of a Catafalque, the well-formed truss of a Booth’s Freedom, or the still dearer and sweeter gem that springs from the bosom of a choice *Ranunculus*.”

ARTICLE V.

REMARKS ON COMPOST FOR POT PLANTS.

BY A PRACTITIONER.

LOAM, peat, and sand, seem to be the three simples of nature, if I may so call them, most requisite for our purpose ; to which, we occa-

sionally add as mollifiers, vegetable mould and well rotted dung ; from the judicious mixture and preparation of which, composts may be made to suit plants introduced from any quarter of the globe : first of loam, which is a loose friable kind of earth, the constituent particles of which crumble and separate easily in the hand ; it is of various textures, the strongest approaching to clay, and so down in several shades, until the lightest becomes nearly similar to strong sandy peat. It is found of different colours, viz., black, yellow, red, &c. &c. ; sometimes, also, it partakes of a saponaceous quality approaching to a marl ; this when predominant is not recommendable for general use ; yet there are some articles for which it may be used with considerable success.

Yellow or red seems to be the natural colour of maiden loam, as either will change to black as they become more or less mixed with other extraneous substances, such as dung, &c. Therefore, to have it pure, which is very material, one should prefer either of these, if they can be conveniently procured. The places to look for this kind of earth, is generally in fields that have not been broken for a long series of years ; also sheep downs, or commons most frequently running in dry banks perhaps throughout the whole ; its strata is of various thicknesses, sometimes being little more than that which forms the turf or upper sward, and at other times lying from one or two, to three or four feet under the surface. That is generally the best which is of a moderate depth, being more within the ameliorating powers of the sun and atmosphere ; the other lying deeper, being known to abound with crude unqualified matter very unfavourable to the growth of tender plants, unless exposed in the compost yard for a year or two to the weather, whereby, it will become fit for all strong growing woody kinds, or fruit trees in general.

Loam, being found answerable to the purpose for which it is designed, it should be immediately carted home and heaped in a clean part of the compost yard for a few months, so that the turf, and fibres of the grass, may have sufficient time to decay, and the whole become more qualified for use through the action of the season : when it has lain thus for some time together, it will be found to be in a very good state for working.

This sort of soil is particularly adapted for striking cuttings in general, on account of its firm close texture, and the twofold quality

of retaining moisture longer than either peat or sand, and at the same time, its own natural dissolubility, which admits the young fibres of the cuttings to push through it freely, as soon as formed, to that which they more immediately like to grow and flourish in, a stratum of which is generally put in the bottom of the pot.

From its strength it seems more adapted to arborescent plants in general, which have powerful roots, that are seldom able to support themselves in lighter soils, more especially in dry seasons; while from its purity and sweetness, it may be said to give additional flavour to the most delicate fruits.

The word Peat, is generally understood to mean common bog earth; however, that which may literally be termed *bog*, is by no means proper for our purpose, on account of its wet coagulating nature, and tendency thereby to rot the roots of the plants; at least, if peat is to be taken from those situations, the very surface only should be chosen, as that is found to contain a greater portion of the fine, drying, opening kind of sand, so necessary to this species of soil.

The places where I would recommend to look for the proper peat, are those dry healthy commons, where it seems to form a medium between bog earth and sand, it is not unfrequently found forming a mere skin, over a bed of pure sand, or gravel. The turf, or sod, cut about four or six inches deep, is always the best for use, as it is in general the lightest, and abounds with sand, as already mentioned, which is, I think, invariably found to be the finest near the surface in such cases. Spots where the wild heath grows luxuriantly should be diligently selected, as producing the best peat for general use; but when it is considered that of the plants mostly cultivated in this kind of soil, some grow in swamps near rivers, others in barren sandy wastes, and more in all their various intermediate stations, as mountains, low lands, &c. &c., especially heaths from the varied surface of Southern Africa; it will surely be obvious, that a supply of every variety of soil should be always at hand, and that the peat answering for one species will not be so congenial as another brought from a very different situation and soil.

It should be cast into a heap in the compost yard for twelve or fourteen months before used, a practice which ought to be observed with composts in general.

It is to be used only for such plants as are known to grow natu-

rally in peat, or those which are known to thrive best in a very light sandy soil: also to be mixed occasionally with loam, for such as delight in an intermediate compost.

Most plants grow remarkably free in peat during the summer season, if kept carefully watered, particularly those which come under the denomination of half herbaceous or biennial like plants; yet even these are often liable to perish in winter, on account of the extreme lightness of the soil, and the cold necessarily produced by frequent watering.

Shrubby, hard wooded, and fine fibrous rooted plants in general, thrive very well in this and loam, mixed in about equal proportions; but I think it by no means suitable to fruits. It is seldom used by itself except for heaths, Botany Bay plants, and the general productions of Northern America, to all of which it seems particularly adapted.

Sand is rarely used simply, except for striking cuttings of the two first of the above mentioned plants; viz., heaths and Botany Bays; for which it is peculiarly suitable; their fine hair-like fibres not having strength to vegetate in stronger soils. An inch or two in depth on the surface is quite sufficient, as it is intended merely to strike the cutting in, the lower part of the pot being filled with peat, into which the young fibres will soon penetrate, and draw therefrom the principal part of their nourishment as from their parent soil: it should be kept moderately moist when used in this manner, otherwise, from its natural drying quality, it would soon parch up and destroy whatever cuttings may have been put therein.

The soil of the interior parts of Southern Africa being for the greater part excessively sandy, a considerable portion of it should be used in the composts intended for the productions of that country, both of woody, herbaceous, and bulbous species.

Pit sand should be invariably preferred for this purpose, it being of a more lively vegetating nature than river or sea sand, and if we may judge by colour the whitest that can be procured; as I have always observed it to be the finest, and have, from repeated trials, proved that the finer the sand the surer a good crop of cuttings.

It requires no kind of preparatory process, more than shifting, to divest it of those small pebbles, &c., which are usually found amongst

it, and to be kept pure and unmixed with extraneous substances until wanted for use.

By vegetable mould, at least the kind best suited to our purpose, is meant that which accumulates, or in a manner grows, if I may use the expression, in woods, particularly those of long standing, by the annual fall of leaves, &c., and their consequent decay; the vicissitudes of a few revolving seasons reduces them to a perfect mould, which is afterwards known by the above appellation. It is of a very loose light nature, and comparatively rich, but far behind that produced by the mixture of animal excrement. Yet it is doubtless of an ameliorating nature, and highly recommendable for such plants as delight in a moderate and well digested manure.

In its simple state it is hardly fit for anything except annuals, as its extreme lightness, like the peat, renders it unable to support arborescent plants with any degree of credit; however, when mixed with loam, or any other soil of a more firm texture than itself, it is particularly useful for West India plants, geraniums, and annuals in general.

The best manner of procuring it is to have several large pits dug in the most convenient part of the woods, into which may be annually raked all the leaves in the vicinity, together with the general surface of the ground produced by them in preceding years, which will materially accelerate their decomposition, so that in a few months they become a perfect mould and fit for use.

Of animal manure, that procured from old hot-beds is, I think, most suitable for composts in this department. It likewise should not be used for plants until rotted to a perfect mould; to promote which, it should be well mixed with a small portion of loam in the compost yard, whereby they will become better incorporated, and more fit for use; it is necessary, however, not to add too much loam to it in this process, as it is so much easier to add afterwards than to take away, according as circumstances may require.

This, mixed with a proper quantity of loam, is in general the best compost for such plants as have soft fleshy roots, also for soft wooded, half shrubby, and herbaceous kinds of plants, annuals, biennials, &c. &c., but is never used simply by itself, and very rarely, if at all, mixed with peat or sand.

The very great variety in the nature of plants, taken *en masse*,

renders it utterly impossible to specify within the limits of this article the soil proper for each particular species; however, I think it may be advanced as a rule not subject to many objections that the whole of each genus are generally fond of the same compost. I shall draw up a table of genera, of which any of the species are known to require the aid of the greenhouse or stove; showing that peculiar soil most suitable to each particular genus; deduced from observations on the extensive collections I have had under my own particular care, combined with those which I have had an opportunity of making on others, as well in the vicinity of London as around Dublin.

The necessity of this combination is evident from the difficulty of finding the whole of the genera here enumerated in any single collection in the United Kingdom.

ARTICLE VI.

ON GUANO.

(Continued from page 65.)

“THE nectariferous juices, or, as they are commonly called, the honey in flowers, are usually separated or secreted by glandular bodies called nectaries, and this honey has by many been supposed indispensable in the fecundation of the seed; but there are also glands on the leaves and leaf-stalks (petioles) of many plants, which perform the same office of secreting honey; here, of course, it cannot be of use for this purpose. Such glands exist on the petioles or leaf-stalks of most of the acacia tribe; on the tips of three or four of the lower serratures on the leaves of *Grewia*, on various parts of the leaves or stems of the *Balsam*, on *Passiflora*, and many other plants. These glands only secrete honey during the youth and growth of the leaf; it is then only that their operation and beautiful structure can be properly observed. When the leaf has attained its full growth and perfection, the active part of these glands dries up, the time for observing their powers is past, and the leaf then proceeds in its own important functions of elaborating the sap. It has been lately surmised, and it appears to me with every probability of truth, that this honey is an excretion of the superabundant and useless part of the juices thrown off, after the leaf or flower has selected all that is

necessary, precisely analogous to the excretions of the animal frame. I will attempt very briefly to show, that this view, if correct, is of some importance, both to agriculture and to horticulture. Mr. A. A. Hayes, of Boxbury, in a beautiful, simple, and, I believe, original experiment, before the Chemical Society of Boston, proved the existence of phosphoric acid (probably combined in several seeds), by immersing sections of them in weak solutions of sulphate or acetate of copper; in whatever part of the seed phosphoric acid existed, on that part was deposited a precipitate of phosphate of copper; this was particularly evident in the seeds of India corn. A certain quantity of phosphoric acid, or phosphates, is therefore necessary to the existence of these seeds; and that part of the plant (probably the flower) destined to perform the functions of preparing the juices for these seeds, must go on exerting its utmost powers in selecting and rejecting, until the requisite quantity of phosphates and other ingredients for the seed are obtained. Now the phosphates in most soils exist in extremely minute quantities; therefore, those plants and flowers whose seeds require them, must extract large portions of food from the soil before they can select the amount of phosphate necessary for the perfections of their seed; and probably, only as many seeds arrive at maturity as the plant can procure phosphates to complete; the remainder, embryos of which are always formed in abundance, are abortive—that is, never come to perfection. The same line of reasoning, of course, applies to the other necessary ingredients of seeds. If, therefore, we present to a plant food containing an abundant supply of these ingredients, it seems reasonable to suppose, that we shall produce more seeds, or rather that more of the embryo seeds will be perfected. Now, the chemical analysis of Guano, shows that it contains, in abundance, most of the necessary ingredients of plants and seeds, the nitrogen of its ammonia being absolutely requisite for the cellular, vascular, and other parts of the stem and leaves, and its phosphoric acid, as well as its nitrogen, for the seeds; and if future experience should confirm what I have thus stated as an opinion, that the flowers of plants manured with Guano become smaller, it may be accounted for on the assumption, that as there are presented to the plant these ingredients in abundance, particularly those necessary for the seed, the flower and its glands, whose office it is to prepare the latter, have less work to perform, less food to analyze, less

to select, and less to reject; hence, there is no necessity to have them of so large a size as where much exertion of these functions is required. The seed will also be larger and in greater quantity.

“We shall forbear to enter on the chemical analysis of Guano; it is more our province to show its effects, and to inform our readers how it may be most efficiently employed in horticulture. We have in progress various experiments to assist in proving its value; and, as far as these have gone, they have in general been most satisfactory. We have already proved that it may be used too freely, and that injury may be thereby produced. In a liquid state (four ounces to a gallon of water), applied twice a-week for three weeks, to beds of strawberries, it has occasioned an amazing growth of foliage and blossoms, but its influence on the crop of fruit remains to be seen. On the other hand, a bed of seedling Alpine strawberry plants, which had been up about a month, was thinly sprinkled with unmixed Guano in powder, and it destroyed every plant where it was applied. The half of a bed of Onions, which were six inches high, was sprinkled over a month ago with pure Guano, at the rate of two ounces to every square yard, being upwards of five cwt. to the acre; the season has been rainy, and the Onions treated with Guano are double the size of those not so treated. Potatoes, which were six inches high, had Guano sprinkled along the rows, amongst their stems, at the rate of an ounce and a half to every yard; and these are now (five weeks subsequently) far superior to those in parts of the rows purposely left without Guano. Nine parts of light soil were mixed with one of Guano, and half a spadeful of the compost was put into each of the holes regularly made to receive it, in a prepared bed of light soil; in the midst of the compost in each hole a plant of Brussels sprouts was put, and then well watered. This was done a month ago, and at the present time more than half the plants have dwindled and died. Geraniums were watered at intervals of a week, five times only in the whole, with Guano water, four ounces to the gallon of water; their leaves began to curl, and, although the use of the liquid Guano had been discontinued two months, it is unlikely that the plants will recover till they are potted in fresh soil. Plants of various sorts, in pots, watered only with Guano water, half an ounce to a gallon, have flourished astonishingly—none have failed. These are lessons which cannot be mistaken.”—*Hovey's Magazine*.

ARTICLE VII.

OBSERVATIONS UPON ANNUALS TO BLOOM EARLY IN SPRING OR SUMMER.

BY M. E. P., OF WILTS.

THE best period for sowing annuals that are intended for spring-flowering is the month of August, or early in September, as those instances of success which have occurred to us have for the most part been from self-sown seeds, which have doubtless been scattered nearly at that time. The seeds should be very lightly covered, or only worked into the soil with a rake, and not be sown too thickly, because, when the young plants have to be much thinned, the remaining ones will be weak, and inevitably damaged in some degree. On the other hand, they must not be sown very sparingly, as it is desirable that the plants be near enough to each other to allow of some dying in the winter, and also to form a covering to the soil, which shall assist in protecting the roots. Unless sown in pots (which is a troublesome and unsatisfactory process at this season), and kept in frames through the severest weather, no autumn-sown annual should ever be transplanted, for they never recover sufficiently that vigour, and that firm establishment in the earth, which are essential to their preservation, if in any way transferred from the spot where they germinate. They may be thinned to two or three inches apart, leaving the strongest and healthiest, and best-rooted plants; and if it should appear, as winter advances, that their roots are so near the surface as to render them liable to injury from winds or other circumstances, a mulching of soil can be carefully laid over the bed. In the spring, all that will be necessary will be to train the branches of the living specimens over those places where any may happen to have perished, and the display of blossoms will be most brilliant and durable.

ARTICLE VIII.

ON POTTING, AND SOIL SUITED TO GROW THE FUCHSIA VERY SUCCESSFULLY.

BY G. G.

HAVING, in February, prepared a suitable quantity of well aerated lumpy loam, fibrous loam, and peat, with a proportion of charcoal

in lumps, and a smaller quantity of silver sand, also some hard lumps of decomposed manure, made so by drying, so that it will not easily coagulate into a mass; but if a sufficient supply of clear manure water can be commanded the above manure is not needed. Use for the stronger and more robust plants nearly all loam and charcoal, and a greater proportion of peat and sand for those of weaker growth, but in all cases let the soil be open and lumpy, and in order to prevent the soil from being too fine let it be passed through a fine sieve so as to take away the finest of the soil. Have clean pots, shake off a large portion of the old compost, place the roots in regular course in the pot, then fill up with the compost, and shake, or carefully press, the soil to the roots. The plants being placed in the greenhouse, let them be syringed overhead so as to soften the buds, which aids them in breaking easily. Do not water much at the root till the fibrous ones begin to strike into the fresh soil, and then in proportion as the plants grow. Manure water occasionally applied is always beneficial to them, and the best kind is a sprinkling over the surface of the ball, of superphosphate of lime, washed down by the usual mode of watering the plant. By due attention to thinning the shoots to a regular supply, and securing them, &c., plants will be produced of first rate merit.

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

GYNOCHEUS LODDIGESII. MR. LODDIGES. (Bot. Mag. 4215.) Orchidaceæ. *Gynandria Monandria*. Introduced from Surinam by Messrs. Loddiges, and has bloomed in the Royal Gardens at Kew. The raceme of flowers is terminal, long and drooping; flowers five or six, large; each being five inches across. Sepals and petals greenish-brown; the sepals blotched with brown. Lip, flesh-coloured, spotted with red. Very interesting and pretty.

ALLOPLECTUS DICHROUS. TWO-COLOURED. (Bot. Mag. 4216.) Gesneriaceæ. *Didynamia Angiospermia*. T. G. Lorraine, Esq., introduced it into this country from Brazil. It requires to be grown in the stove. It has the appearance of a

Besleria; shrubby below, and herbaceous above. The flowers are tubular, yellow, an inch long, covered with yellow hairs. Calyx a rich purple-red colour, which produces a striking contrast with the yellow flower.

GESNERIA HONDENSIS. Gesneriaceæ. Didynamia Angiospermia. (Bot. Mag. 4217.) Discovered in New Grenada, and sent to the Royal Gardens of Kew. The flower-stem is a foot high, bearing numerous flowers. Each blossom about an inch long, orange-red and yellow, covered with red hairs.

FUGOSIA HETEROPHYLLA. VARIOUS-LEAVED. (Bot. Mag. 4218.) Malvaceæ. Monadelphica Polyandria. A shrubby plant, sent from St. Martha, by Mr. Purdie, to the Royal Gardens of Kew. The appearance of the flowers is like those of *Turneria ulmifolia*, yellow, with five spots at the centre forming an eye, producing a pleasing contrast. The plant blooms freely, and is very pretty.

CATASETUM CALLOSUM; var. **GRANDIFLORUM.** TUMOUR-LIPPED. Orchidææ. Gynandria Monandria. From Columbia, and has bloomed in the collection at Syon Gardens. The flower-scape a foot long. Sepals and petals of a greenish-purple. Lip dark green and red purple. Very singular in shape, and pretty.

KOPSIA FRUTICOSA. SHRUBBY. (Bot. Mag. 4220.) Apocynaceæ. Pentandria Monogynia (synonym *Cerbera fruticosa*). From Pegu. An elegant hothouse shrub. The flowers are like those of *Vinea rosea*; nearly double the size, and fragrant. Very pretty and ornamental; produced in corymbose heads.

LANCASTERIA PARVIFLORA. SMALL-FLOWERED. (Bot. Reg. 12.) Acanthaceæ. Didynamia Angiospermia. From the west coast of Africa. A pretty winter-flowering plant for the hothouse, and a charming companion to the old well-known beautiful *Eranthemum pulchellum*, with its rich blue flowers. Our present plant is profuse in blooming; the flowers tubular, slender, an inch long; the five-parted limb nearly half an inch across, rich yellow at first, and changing paler. They are produced in clusters at the joints of the branches very numerous. It is in the collection of Mr. Glendinning, of Turnham Green.

RUELLIA LILACINA. LILAC-FLOWERED. (Bot. Reg. 13.) Acanthaceæ. Didynamia Angiospermia (synonym *R. longiflora*). It is a very charming shrubby species, blooming very profusely in panicle spikes. Each blossom has a tube about an inch and a half long, and the five-parted funnel-shaped limb is about an inch and a half across; a beautiful rosy-lilac colour.

CUPHEA STRIGILLOSA. COARSE-HAIRED. (Bot. Reg. 14.) Lythracæ. Dodecandria Monogynia. From Mexico, and is in the Horticultural Society's collection at Chiswick. It is a greenhouse shrub, growing and blooming freely. Each flower is near an inch long, orange, green, and scarlet in colours, and appear like small flowers of the *Tropæolum tricolorum*. It is a neat and pretty plant, blooming for several months successively.

DENDROBIUM ADUNCUM. HOOKED DENDROBE. (Bot. Reg. 15.) Orchidææ. Gynandria Monandria. From Calcutta, and has bloomed with Messrs. Loddiges. The flowers are produced in a pendulous raceme, several together, up short laterals. Each blossom is an inch across, a beautiful transparent rosy-pink colour.

PTEROSTIGMA GRANDIFLORA. LARGE-FLOWERED. (Bot. Reg. 16.) Schrophulariaceæ. Didynamia Angiospermia. This new plant has been sent by Mr. Fortune from Hong Kong to the London Horticultural Society's garden. It appears to be a greenhouse herbaceous plant, growing erect, two feet high. The flower is tubular, much like the common snapdragon, about an inch and a half long, of a rich purple blue. It is a very pretty flowering plant.

MULGEDIUM MACRORHIZON. LARGE-ROOTED. (Bot. Reg. 17.) Asteraceæ. Syngenesia Polygamia. Seeds of this very pretty Succory were sent by Dr. Boyle, from Cashmere or Thibet, to the London Horticultural Society. It is a trailing perennial plant, well suited for a rock-work; blooming, so as to form a large carpet of lively blue, for a long time during the later summer and autumn months.

FRANCISSEA ACUMINATA. ACUMINATE-LEAVED. (Pax. Mag. Bot.) Schrophulariaceæ. *Didynamia Angiospermia*. From Brazil: much like *F. Hopeana*, but blooms more freely, in terminal corymba; the flowers are a bluish-violet. It has bloomed with Messrs. Hendersons, Edgware Road, London.

LEIANTHUS LONGIFOLIUS. LONG-LEAVED. (Pax. Mag. Bot.) Gentianaceæ. *Pentandria Monogynia* (synonym *Tachia longifolia*). It is found in woods in Jamaica. It is an evergreen shrub, flowering freely, in terminal pedicles, of a dozen blooms in each head. A separate flower is near two inches long, a lively yellow colour. It is grown in several of the public nurseries around London.

DESCRIPTIVE CATALOGUE OF NEW CAMELLIAS (*continued from page 68*).

Orsolina, delicate pink, very large, double and beautiful.

Palagi, very delicate, white, with rose tinge, spotted and streaked with rich rose and purple. It is of *Pæony* formed class.

Palatinus hungaricus, very large and full, double; a rich rose, sprinkled over with shades of white and rose. Of first-rate character.

Parmentiera, imbricate form, deep rose, and the extreme parts of the petals are transparent. Very superb.

Pensylvanica d'Amerique, imbricate, and of the first-rate character.

Pisani, imbricate, very large, white, spotted and streaked with rosy carmine.

Pomponia aurea, a globular form, buff colour, very beautiful.

Porta, it is very like the old white in shape; a pure white like it too; but striped and spotted with rich red. Very pretty.

Powhattan, globular form, a rich carmine.

Prince of Wales, first-rate form, very large, and full double. The petals are like those of *Reticulata*; a rosy satin, delicate.

Princesse Baciocchi, superb, imbricate form; the first four rows of petals are a beautiful rich carmine velvet, the others are nearly white.

Princesse Maria, bright rosy salmon, with a very distinct pure white streak.

Purpurea nova, beautiful purple; very double.

Queen of England, fine imbricate form; a very delicate and beautiful rose colour, with a white stripe up the middle of each petal. Very pretty.

Queen of Great Britain, a beautiful satin-rose colour, fine form; much admired.

Ralemona d'Italie, fine form; the veins of the petals are quite transparent. The petals are a deep rich rose at the extremities, but the centre of the flower is a delicate pale rose. Very beautiful.

Rapallino, very large imbricate form, a deep carmine, spotted with white; very handsome.

Reine des Fleurs, beautiful imbricate form, deep carmine, edged with white; very pretty.

Rising Sun, rich brilliant red, very large, and of the most beautiful imbricate form. One of the finest grown.

Salicifolia, a beautiful brilliant red, a globe-shaped flower; very fine.

Sarniensis vera, superb imbricate form, and a beautiful rich carmine colour.

Skirving's Seedling, or *Alba Illustrata*, beautiful white, and superb imbricate form.

Sherwoodi d'Amerique, beautiful cherry colour, imbricate form; very handsome.

Sovereign (Low's), very large, and full double, superb imbricate form, white, with a few patches of carmine; a very superb variety.

Spiralis, form of the old double white, a very delicate cream colour, striped with white.

Squamosa, beautiful red, with a pure white edge; very large flower, and a fine imbricate form; handsome.

[To be continued.]

ON HEATING APPARATUS BY MEANS OF HOT WATER, &c.—In a recent number of the *Gardeners' Chronicle*, Mr. Lindley has made some useful remarks on a subject of much importance to gardeners relative to the apparatus of heating plant houses, &c., by means of hot water. We extract the following. "The most serious objection that has been made to hot water as a heating medium, is its tendency to incrust the interior of the apparatus with carbonate of lime, thus producing explosions, or rendering the fire inefficient. We have now before us an instance of the kind where a boiler became lined, in a few months, with a crust nearly half an inch thick, and as hard as freestone; and there is no doubt that such deposits are accumulating in all hot water boilers and tanks, with more or less rapidity, according to the impurity of the water employed. Indeed, every one who has a hot-water apparatus in action must, unless he constantly uses rain water, expect to be obliged some day to pull it down for the purpose of having it cleaned.

"This inconvenience is more serious than is commonly supposed, and having been found universal in steam boilers, has attracted the attention of Dr. Ritterbrandt, who lately brought the subject before the Society of Arts, suggesting an effectual cure.

"In order to obviate the difficulties just spoken of, Dr. Ritterbrandt proposes to use the salts of ammonia, it being known that if to a soluble salt of lime be added a solution of carbonate of ammonia, precipitation takes place, and the acid which held in solution the lime unites with the ammonia, while the carbonic acid of the carbonate of ammonia combines and falls down with the lime; but, upon the water being heated, the precipitated carbonate of lime combines with the salt of ammonia, is redissolved, and the carbonate of ammonia is formed and escapes with the vapours of the boiling water. Feeling convinced that this peculiar reaction took place, viz., that carbonate of lime, precipitated from a salt of lime by carbonate of ammonia, would be again dissolved by the application of heat, it only remained to be proved how far the principle was capable of decomposing the carbonate of lime already existing in calcareous water, and the results exceeded the most sanguine expectations. However highly charged with lime water may be, the process answers, and the solution is in all cases perfect.

"Mr. Gooch, of the Southampton Railway, stated that when the subject first came under his consideration, there were two points which he was desirous of having made clear to him. The first was—that the ammonia did actually prevent the deposit; and the second, that the application of the muriate when applied to cleanse boilers did not produce any injurious effect upon the metal. Upon both of these points he expressed himself perfectly satisfied, and stated that he had adopted the plan with all the engines under his superintendence. The quantity of ammonia used on the Southampton Railway is at the rate of one pound for every 1500 or 2000 gallons of water. The cost of the ammonia is about 3*d.* per pound. Mr. Goodiff had also seen experiments made on the engines of steam vessels, one of which, *George the Fourth*, had its boiler completely incrustated; but after the experiment had been carried on for six weeks, the boilers became clean. It had also been tried in a small stationary high-pressure engine, of eight horse power, working with salt water, and the same results followed.

"The lesson which gardeners should learn from this important practical communication is, that if they wish to keep a hot-water apparatus in working order, without running the risk of the interior becoming 'furred' up, they will invariably add one ounce of sal ammoniac (or muriate of ammonia) to every ninety gallons of water with which their apparatus is filled."

CAMPANULA PYRAMIDALIS.—It being the season of the year to promote the growth of this splendid flowering old plant, I just direct the attention of your readers to try it, by having some in pots, promoting their growth in a close frame—a coolish one, till they can be grown there, then remove to a greenhouse till the plants are about to show the flower, then let a portion of them be kept in the light of a north-aspected window, and the flowers then instead of being blue,

become of a milk-and-water colour, having a most delicate hue, then remove them into a shady part of a greenhouse, or sitting-room, and in contrast with the other plants which were kept fully exposed in the greenhouse to the full sun and light, and which of course bloom the natural colour of a rich blue, they produce a very pleasing contrast. The pure white variety is equally grown to beautiful specimens. The three together are well deserving attention; procured very cheap, cultivated easily, (see articles in *CABINET*), and blooming its fragrant flowers for a long season, alike recommend a trial wherever practicable.

FLORA.

ON FUCHSIAS.—In compliance with the request of several of your correspondents, who desire a few practical hints on the management of this beautiful tribe of summer flowers, I beg to offer the following remarks, which I consider will be suitable to the admirers of this flower, whether their object be public competition or the mere decoration of the greenhouse and flower garden.

Presuming that the old plants are still in a dormant state, the first thing to be done with them will be to shorten the side shoots a little, and to place them in a temperature of from 50° to 60°, in order to induce them to make young shoots, from which a stock of plants may be obtained. In selecting the cuttings choose those of a short robust habit—such as generally protrude from the old stem; insert them in light sandy soil, and place the pot in a shady corner of a cucumber frame. In a fortnight the cuttings will be sufficiently rooted to pot off, using a compost consisting of equal parts of turfy loam, peat, and leaf-mould, with a liberal sprinkling of sand and a little charcoal. Return them to the frame, but as soon as they are established in the fresh soil remove them to a more airy situation, with a moist atmosphere of from 50° to 65°, and endeavour to keep them in a vigorous growing state, for so sure as they receive a check when young so certain is it that they will never make first-rate specimens. When a sufficient supply of cuttings has been obtained the old plants may be cut down to within a few inches of the pot, and if they are watered occasionally with a little clear weak manure-water they will throw up strong shoots from the bottom. As soon as these shoots are three or four inches in length take the plants to the potting shed, and having prepared some of the before-mentioned compost, shake them all out, reduce the roots, and repot into the smallest sized pots that the roots can be conveniently got into. At the same time, the number of shoots may be reduced to four, six, or eight, according to the specimen it is desired to produce, as a strong growing variety, with six, eight, or more shoots, will make a specimen four feet in height and six feet in diameter, and when fully grown will require an 18-inch pot. After this potting, the plants should receive the assistance of a little bottom heat, and should be kept in a close moist atmosphere, with shade in bright weather, until they are established in their new pots, which will be in about a fortnight from the time of potting.

We will now suppose it to be the middle of February, at which time the young plants should be well established in 3 or 5-inch pots, and the old ones ready to receive their second shift. At this time the plants should be stout, thrifty fellows, with clean bright transparent stems and foliage, and young lively roots protruding all over the surface of the soil; and if in this state, they may, by proper treatment, be grown to any size. A good single-stem specimen of *Exoniensis*, when well grown, should be six feet in height, with branches drooping in regular succession from the pot upwards, and it should be a perfect mass of foliage and flowers; and other kinds, according to their habit of growth, ought to be equally perfect. To return, however, to the plants, we must now prepare for the second shift, and for this purpose a compost consisting of two parts turfy loam, one part sandy peat, one part half-decomposed leaf-mould, with a handful of small charcoal, and a liberal supply of coarse sand, must be thrown together and thoroughly incorporated, taking care to break it as little as possible. At each subsequent shifting of the plants, excepting the last, the same compost must be used, but at the final potting it will be as well to substitute equal portions of strong loam, and three-years-old cow dung, for the one part of peat before used; as this will make the compost of a more adhesive character, the plants will consequently not require so much water during the hot weather.

In shifting the plants, take care to drain the pots properly, by using five or six oyster shells, and some rough charcoal, placing some of the roughest of the compost over the drainage. Remove the plants at each shift into pots at least three sizes larger, for though it may not at all times be convenient to adopt the one-shift system, I believe there are now no good cultivators who think of practising the old small-shift system. It is impossible to say how frequently the plants will require shifting, but if they are growing vigorously, they will never go more than six weeks from the time they are first potted until they show bloom, without requiring a larger pot. The best situation for the plants during the first part of their growth will be a low hot-water pit, where they can be kept near the glass, giving them plenty of air both night and day, and abundance of atmospheric moisture, but taking care to shade them thinly during bright sunshine, as the foliage is very liable to burn. As the plants progress in growth and get too tall for the pit, remove them to a house kept at a temperature of from 55° to 65° or 70°; place them near the glass, give plenty of air and moisture, occasionally moistening the paths, walls, and stages with clean manure water, and dew the plants over both morning and evening with clean tepid water.

If these directions are attended to and carried out, there need be no fear of the red spider attacking the plants; but should that pest make its appearance, lay the plant down on its side and syringe with clean soot-water until every insect is washed clean away. Throughout the whole season it will be advisable to water the plants twice or thrice a week with manure-water, formed by mixing one bushel of sheep's dung, one peck of soot, half a peck of guano, and half a peck of lime; put the soot and manures together and mix them into a puddle with boiling water, and then throw in 50 or 60 gallons of soft water and the lime; stir the water frequently, and, after it is quite clear, add two gallons of clean water to every gallon of the manure used, and apply it in a tepid state. It is astonishing what vigour this water imparts to the plants; indeed all other things being suitable, they seem to revel in it with that luxuriance that makes them really delightful to look upon.—*Gardeners' Chronicle*.

LONDON HORTICULTURAL SOCIETY, March 17.—Of Orchids, Messrs. Veitch and Son, of Exeter, sent one of the many varieties of *Gongora maculata* from South America, and two *Cypripediums* from Java; one a very dark purple, and the other a paler variety; both referable to *C. barbatum*. From Mr. Rae, gardener to J. J. Blandy, Esq., were two fine specimens of the old *Phaius grandifolius*, one of *Dendrobium Pierardi*, and another of *Lycaste Skinneri*. The beauty of these was, however, considerably destroyed by the travelling; a Banksian medal was awarded. Of other plants, Messrs. Henderson, of Pine-apple-place, sent *Acacia diffusa*, a small *Boronia triphylla*, producing numerous little rose-coloured star-like flowers; *Trillium erectum*, a hardy North American herbaceous plant, with dingy chocolate blossoms; and a beautiful collection of Hyacinths, for which a certificate was awarded. From Mr. Green, gardener to Sir E. Antrobus, Bart., were three seedling Azaleas, all of them good; but one named *alba magniflora*, having large white blooms, in which was a shade of pink, especially so; promising to be a considerable improvement on the kinds now in cultivation; a certificate was awarded it. A pale rose-coloured seedling *Camellia* came from Messrs. Lane and Son, of Great Berkhampstead. The plant had only one bloom on it, which, however, served to show that it possessed considerable merit in point of form; the petals laying nicely over one another, in the way of imbrication. It was named *Beauté Suprême*, and was awarded a certificate. Several fine specimens of Cape Heaths were produced from the garden of C. J. Dimsdale, Esq. These were *vernix rubra*, an early sort, covered with round orange blossoms; a large plant of *transparens*, *nitida picta*, *Willmorei*, and *lacticolor*; the latter covered with small white flowers; a Banksian medal was awarded for them. Finally, several cut specimens of half-hardy plants were produced from the open walls of the gardens at Curraghmore, the seat of the Marquis of Waterford, with the view of illustrating what kind of climate they have in Ireland, in the county of Waterford. Some of the specimens were from a south-east aspect, and the plants from which they were cut were stated

to be of the following dimensions:—*Edwardsia microphylla*, in full bloom, covering 250 square feet, the stem, a foot from the ground, measuring 13 inches round; *E. grandiflora*, showing flower, covering 210 square feet, the stem measuring 15 inches round; *Acacia verticillata*, in full flower, covering 400 square feet, the stem measuring 21 inches round; *Clianthus puniceus*, stated to have been in flower for these three months past, covering 200 square feet; *Pittosporum tobira*, covering 130 square feet, has been in flower all winter; *Eucalyptus robusta*, covering 100 square feet; *Solanum crispum*, covering 300 square feet, has been in flower a month ago, as has also been *Ribes speciosum*, covering 200 square feet of wall; *Magnolia conspicua*, covering 160 square feet, has 100 open flowers on it; *Fuchsia gracilis* is showing flower, and *F. microphylla* was stated to have been in flower all winter. On a south aspect the following plants, portions of which were sent, had stood two winters unprotected: the following were not in flower:—*Mimosa prostrata*, White Indian *Azalea*, an *Aster*, *Grevillea armata*, and *Metrosideros floribunda*. The following three were in flower, viz., *Grevillea rosmarinifolia*, a small red *Camellia*, and *Coronilla glauca*. The following were mentioned to have stood last winter unprotected:—*Leonotis leonurus*, *Eutaxia myrtifolia*, *Veronica speciosa*, *Nerium Oleander*, *Abutilon striatum*, *Goodia lotifolia*, a *Teucrium fruticosum*, and *Acacia armata*; the three last were in blossom. These were all somewhat damaged by travelling, but they nevertheless bore conclusive evidence of the unusual mildness of the climate of Waterford. From the same gardens also came fruit of *Physalis edulis*, or Cape Gooseberry, which has considerable resemblance to the winter Cherry, but paler, and less attractive to the eye; and a branch, with a half-ripe fruit on it, of the Loquat of the Chinese (*Mespilus Japonica*), which, when ripe, somewhat resembles a small Apricot. This evergreen tree will survive our winters in the open air, in sheltered situations; but it will not fruit, except under glass, in a tolerably high temperature. Of Models, Mr. Hurwood, of Ipswich, Suffolk, sent a small Vinery, and different forms of windows, for the purpose of showing how his patent apparatus for opening and closing lights worked. The principal feature in this contrivance is the application of an endless screw working on a rack, and turned by a winch inside the house; by which means all pulleys, weights, and cords, are dispensed with. The lights are quite free from all risk of breakage by wind; for they are kept quite fast in any position to which they may be moved. The moving power, with a little variation, may be applied so as either to lift the lights perpendicularly, or to make them slide on an incline; as in the case of the roof sashes of the Vinery, in which two lights move at once. From the Garden of the Society were the larger variety of *Oncidium sphacelatum*, *Epidendrum aurantiacum*, remarkable for its peculiarly bright orange blossoms; the rare *Chysis bracteescens*, *Franciscia Hopeana*, a fine bush of *Acacia Riceana*, *Rhododendron arboreum*, the showy *Pimelea spectabilis*, a blue *Cineraria*, the pretty little hardy *Primula denticulata*, which was shown at last meeting, and two *Tropæolums*; *tricolorum* and *brachyceras*; exhibiting the appearance of a bush. This loose and natural habit, which certainly has a much better appearance than when they are trained stiffly to a trellis, is effected by placing the top of a young Larch-tree, with the lateral twigs attached, close to the bulbs before they spring, and leading the young shoot to the stake, round which it continues to twine until the whole support is closely covered with foliage and flowers, presenting an exceedingly graceful appearance, and entirely dispensing with the trouble of training and tying.

ON EXHIBITING HEARTSEASE, &c.—Will you oblige me, if you can, by answering the following questions? or, perhaps, some of your numerous correspondents will. First, in what manner should the Heartsease be shown? on cards, or how otherwise? I have been a grower for some time, but never having shown, am ignorant on that subject; but being in possession of a very good collection of seedlings and others, I propose to try this season. I shall, therefore, feel obliged for some information on dressing them for show. Also, can you tell me anything of the regulations of the Boxley Heartsease Society, which I have seen noticed in previous Numbers? And, lastly, the best preventative for that

troublesome pest, the pea-bug or woodlouse, as I could scarcely get a bloom perfect last season?

AN AMATEUR GROWER AND YOUNG SUBSCRIBER.

[Sloping stands, constructed of wood, zinc, tin, or pasteboard, we have seen used. They have generally been painted green, some few blue, and in few cases been white. The best we have seen used, to give the most correct and distinct view of the flowers, was one that had the surface of the frame papered with a square of such coloured paper under the individual flower that would give it the most distinct appearance. The best stands are provided with tubes underneath to hold water, into which the stalk being inserted, the flowers are kept fresh. The floral societies usually specify in what form the flowers of each class are to be exhibited, so that what may be deemed right in one place would be allowable in another. Mr. Kirby, the secretary of the Boxley Heartsease Society, if applied to, will supply the information. Place some flat pieces of board or slate in the spaces between the plants, and wrap up some bits of boiled potatoes in dry hay; upon this lay another board or slate, and the insects will feed upon the potatoes. They may be thus attracted and destroyed quickly; and by a little successive attention an entire riddance may be effected.]

ON THE POMEGRANATE.—A subscriber complains he cannot bloom the Pomegranate against a west aspect wall. It blooms and fruits well treated as follows. A dry substratum; if not so naturally, it must be formed by pieces of stone, brickbats, &c. A light but rich loam. In pruning, leave the new shoots (twiggy ones) as numerous as is requisite; as it is from them the bloom is produced. It must be trained against a south aspect wall, and if sheltered from wind on east or west all the better.

SENEX.

CINERARIAS.—A correspondent has suggested the propriety of offering medals of higher value than are now given for Calceolarias at the floral exhibitions, on the grounds of their great beauty, and still further capability of improvement. I have no intention of detracting from the merits of the Calceolaria in recommending the Cineraria as equally worthy of favourable consideration by those who arrange the schedule of prizes. Few plants are more useful in a garden than the Cineraria, for it might be had in bloom, if desired, during the greatest part of the year; and, when in bloom, there are few plants more showy. Would it not, then, be advisable another year to offer medals (even if of small value) for the best six Cinerarias of distinct and good varieties?

[We think so too.]

Floral Operations for April.

AMARYLLISES, and other lilaceous bulbous plants which have been kept dormant, may now be re-potted, and put into an increased temperature.

ANNUALS, HARDY, such as Clarkias, Nemophilas, Larkspurs, &c., if the soil be moderately dry, may be sown. The best method of sowing the small seeds in patches is to have a quantity of finely sifted soil; spread a portion where desired; after scattering the seed, sprinkle a little more soil over them, and then press it closely upon the seeds, which will assist them in vegetating properly.

ANNUALS, TENDER, such as Cockscombs, Balsams, Stocks, &c.—Such as have been sown, and may be up, should have all possible air given to prevent their being drawn up weakly. In watering those in pots they must not be watered over the tops, or many of the sorts will be rotted by it. The best method is to flood over the surface of each pot, always using water that is new-milk warm. Those annuals sown in frames must be watered (when requisite) with a very fine syringe, or pan-rose to sprinkle with; but the best plan is to take advantage of gentle rains. For any seeds yet requiring to be sown, use fine soil pressed to the seeds; and, when convenient, place the pots (if used) in moist heat till the plants are up. Cockscombs, Amaranthus, Balsam, Browallia, Brachycoma,

Thunbergias, *Maurandias*, &c., if large enough to pot, should be done in sixty-sized pots.

AURICULAS.—Those requiring top-dressing should be done immediately, by taking off about two inches deep of the top-soil, replacing it with some very rich; more than one-half of it should be rotten cow-dung two years old, and the rest loam and sand. Immediately after this dressing, let the soil be well settled by a free watering. By the end of the month the unexpended blossoms will be nearly full grown; no water must be allowed to fall on them, or the blossoms would be liable to suffer injury by it. All possible air may be admitted to the plants during the day, only screen from cutting frosty winds.

CAMPANULA PYRAMIDALIS—to have fine pot specimens, should be potted, if not before done, and encouraged to grow.

CARNATIONS.—The last year's layers kept in pots or beds during the winter should be planted off into large pots 12 inches wide at the top, 6 at the bottom, and 10 deep. In each pot three plants may be placed triangularly, not planting deeper than to fix them securely. The following compost is most suitable:—Two barrows full of fresh yellow loam, three of well-rotted horse-dung, and half a barrowful of river-sand, well mixed; plant in it *without sifting*, but breaking very well with the spade, and have a free drainage of rough turf, &c.; place the plants in a sheltered situation out of doors.

CREEPERS—and twining greenhouse or hardy plants, should be pruned and regulated before they begin to grow.

CALCEOLARIA SEED—should be sown, having the finest sifted soil for the surface.

CHRYSANTHEMUMS—sow seed of, and raise in moist heat. Pot off singly the suckers of old plants for blooming.

CUTTINGS of *Salvias*, *Fuchsias*, *Heliotropes*, *Geraniums*, *Celsias*, *Alonsoas*, *Lotuses*, *Senecios*, &c., where it is desired to plant such out in beds, should be struck in moist heat as early as possible. Young shoots, cut off clean, strike readily. (See kinds of plants suitable, in vol. i., p. 38; and for additional kinds, subsequent vols.)

DAHLIAS.—Any struck root should be potted into small pots. Seeds should be sown, placing them in a hot-bed frame till up. Cuttings be taken off and struck in heat.

ACHIMENES, *Gesneria*, *Gloxinia*, and *Tropæolum* bulbs, &c., that have been kept dry during winter, should now be potted, and gently brought forward in heat.

HERBACEOUS perennials, biennials, &c., may still be divided, if required.

PELARGONIUMS.—Cuttings now put in, struck in a hot-bed frame, and potted off as soon as they have taken root, will bloom during autumn. Attention to thinning, tying, &c., of blooming plants, &c., see articles of in previous numbers.

POLYANTHUSES—should be top-dressed, as directed for Auriculas, if not done before. Seed may now be sown; the best method is to raise it in heat, harden gradually, and transplant when large enough.

RANUNCULUSES and **ANEMONES**—for late bloom, may still be planted, taking care no fresh applied dung is in the soil, nor should the ground to plant in be lightened up more than two inches deep. The soil of the bed should be half a yard deep at the least. Press the soil firm about the plants. See articles in former numbers.

ROSE TREES—allowed to remain untouched till the shoots of the present season an inch long, and shortened by cutting back all the old wood to below where the new shoots had pushed, the dormant buds will then be excited, and roses will be produced some weeks later than if pruned at a much earlier season. Plants in pots now put into heat will come into bloom in May.

TUBEROSES—should be planted, one root in a small pot, using very rich sandy soil; the pots should be placed in moist heat till the plants are up a few inches; then they may be planted into larger pots, and taken into a stove, and finally into a greenhouse.

TULIPS.—Protect from strong winds, by tying up, or screening the bed.

SEEDS of greenhouse and similar plants may now successfully be sown, raised in moist temperature.

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M^{re} IVERY'S SEEDLING CINERARIAS.

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,
MAY 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

MR. IVERY'S SEEDLING CINERARIAS.

1. PERFECTION. 2. VICTORIA SUPERB. 3. CONQUEROR.

THE Cineraria is fast becoming a popular flower, its gay and lively appearance at an early period of the season rendering it peculiarly useful for purposes of general decoration in the greenhouse; to the great improvement, however, which has recently been effected upon its original rude and starry-shaped flowers, remarkable only for their large daisy-like disk or eye, surrounded by a few narrow petals, may we attribute its present elevation.

The three seedling varieties, raised by Mr. Ivery of Peckham, and represented in our plate, afford ample proof of the improvement we speak of; there yet, however, remains much to be done, especially in the habit of the plant, which ought to be compact and *dwarf*. This is a point that must first be insisted on, because without uniformity in the plant, all its beauty is destroyed. Other good properties are, the trusses of bloom being large, close, and even on the surface, the individual flowers standing together so that their edges just touch each other, however numerous they may be, and finally, as the most beautiful of all forms in a flower that faces us, each separate bloom should form as complete a circle as possible, its centre or disk be proportionate to its size, that is, in all cases not more than one-third the diameter of the whole, and if somewhat less, perhaps, the better, as this portion of the flower is certainly the least interesting of any. We hope soon

to see *double-flowered* kinds, which will be pleasingly admitted to obviate the last-named consideration.

A very excellent plan to adopt in the cultivation of this plant is to turn out the old plants (after undergoing a thorough cleansing process) into a raised bed, in the month of June. The bed should be composed of one-half leaf-soil, or other vegetable matter, with sharp sand; and if soiled up pretty close to the stem, abundance of fine young plants will be ready for pots by the early part of August: they should then be taken up, shaken entirely apart, and the plants singled out for general potting. The soil should be equal parts leaf-mould, peat, old cow-dung, charcoal, or wood-ashes, strong loam, and sharp sand; remembering in all these matters to drain the pots completely.

Nothing is then necessary but to place them all behind a wall, on the north side, immediately they are potted, and to sprinkle them well. About the middle of September they will require their final shifting into larger pots, using the same kind of soil in a rougher state. The plants may then be placed in a cold pit, near the glass, as they like abundance of light; they should be watered moderately, and removed to the greenhouse when required for bloom.

The following twelve varieties are amongst the best in present cultivation, and may now be procured at reasonable prices at most of the nurseries.

Attraction (Henderson)	Nobilis (Ivery)
Beauty of Cyston (Ivery)	Nosegay (Ivery)
————— Wenham (Ivery)	Princess Royal (Piper)
Criterion (Ivery)	Regulator (Henderson)
Eclipse (Henderson)	Wee Pet (Ivery)
Emperor of Russia (Ivery)	

ARTICLE II.

A FEW OBSERVATIONS ON THE PHYSIOLOGY OF PLANTS.

BY M.

IN the vegetable creation consist the principal ornaments of the earth, and from them are derived the chief support for man and beast. To the traveller in warm countries the trees afford a grateful and necessary shade, and in cold climates they give shelter and protection. To the medical man plants yield properties of the utmost importance in alle-

viating many of the diseases of life. To the botanist, their admirable arrangement and affinity of principles or qualities afford interesting and useful information ; and to the horticulturist the structure of plants, and every circumstance affecting their growth, claims his especial regard. But at the same time that its importance is admitted, it must be acknowledged to be surrounded with difficulties, for it involves the question of the peculiar functions of living beings, a question which, notwithstanding the numerous valuable discoveries that different philosophers, from age to age, have made concerning it, still, in a great measure, remains unanswered. Chemistry, it is true, has of late done much to elucidate the nature of vegetable growth, but we are still ignorant of the peculiar controlling effects of vitality of chemical action ; nor, on the other hand, are we better informed as to the precise manner in which light, heat, and electricity, influence vital action, and consequently the growth of plants. A knowledge of these points would enable the horticulturist to carry on his operations with almost uniformly successful results, but in the absence of such knowledge, he must at present be content to pursue the course which experience, and the amount of science already made available, shall point out ; and it is gratifying to be aware of the fact, that though we have not a full knowledge of all the circumstances affecting the growth of plants, we do know enough to admit of valuable practical application. While, therefore, we reduce our science to practice, let us endeavour to extend its bounds, adhering to no theory which is not based on substantial facts, at the same time remembering that, with the advance of science, theories which to-day appeared well founded have shortly given way to others, which, upon the discovery of some fact previously unknown, have, in their turn, shared the fate of their predecessors. Admitting, as I freely do, the value of theories, without which science would lose the greater part of its value, I would simply caution your readers against their abuse : to have recourse to theories is very beneficial, yet to be entirely guided by them, in matters where our knowledge is not precise and certain, is voluntarily to give up all hope of advancement in the path of knowledge.

The material conditions necessary to healthy vegetation are a suitable soil, sufficiency of water, and atmospheric air. Plants being properly placed, with regard to these circumstances, and duly acted on by light, heat, and electricity, are observed to vegetate vigorously. The soil

serves to afford to the root of the plant mechanical support, it acts as a medium for the conveyance of moisture, and is the source of certain fixed elements, which are found essential to the perfection of vegetable growth. The presence of water is absolutely necessary, for without it, plants neither grow nor live; a definite quantity seems important; this quantity, however, is less than is generally supposed. The atmosphere is the source whence plants derive their chief supply of food, which exists there in different forms. Thus, aqueous vapour occurs in the air in very large quantities, and descending in the form of rain, mist, &c., supplies the plant with moisture; dew, also, another form in which water is deposited from the air, exerts a powerful effect on vegetation; how far the water held in solution in the air is directly appropriated by plants, has not been satisfactorily determined. The carbonic acid of the air is the chief source of the carbon of plants; their azote or nitrogen, also, is principally obtained from the air, where it exists in different states, namely, in the form of ammonia, nitric acid, &c., and also in the uncombined states. Other substances, also, which affect vegetation, are found in the air, as common salt, particularly near the sea; and as it is highly probable that all the solid elements of the earth exist in very small quantities in the air in a state of vapour, it is possible that some of them may exert an influence on vegetation with which we are totally unacquainted. The influence of light, heat, and electricity, upon the vitality of plants is well known to be indispensable for their healthful growth; it is also probable that the action of such on the soil and on manures is highly important, though the question of their peculiar mode of action is involved in much doubt and obscurity. Some of the effects of light on vegetation are well known; for instance, it is the cause of colour in plants; those grown in the dark being blanched or colourless. The effect of light over the vital or chemical actions taking place within the substance of plants, is strikingly shown by the fact that, when exposed to its influence, they exhale from their leaves, &c., oxygen gas, whereas in the dark they exhale carbonic acid gas. The scientific views at present entertained about the growth of plants, are by no means of that settled character which would induce the horticulturist to rely on them as true guides in practice; indeed, it may be observed, that different, and even opposite views, are now held upon some of the first principles of vegetable physiology, and this by men of the greatest

eminence in science. Our best course, then, under existing circumstances, will be, as we before observed, to make the best use of the knowledge already existing, at the same time that we diligently use every means to extend its bounds, by experiment and close observation.

ARTICLE III.

ON THE SOIL, AND FORMATION OF A BED SUITED FOR THE SUCCESSFUL CULTURE OF THE PANSY.

BY C. C. OF SOMERSET.

HAVING observed in the last CABINET an article on the Pansy, by your respected correspondent, Mr. Johnston, of Ballykilbeg House, and as he intends it for the benefit of young amateurs, and has not told them the best way to make the beds to receive the plants on which the successful culture of this beautiful flower depends, I have forwarded these few hints for insertion in the CABINET.

If the soil of the garden rest on chalk, stone, or gravel, no drainage will be required; but if it be clay, or any other retentive soil, a good drainage must be resorted to. In the first place, the soil must be taken out of the bed to the depth of two feet, and place some rather large stones or brickbats to the depth of six inches, and on that some small stones or lime rubbish to the depth of five inches more, and put a layer of turf one inch thick with the sward downwards, to prevent the soil from getting down amongst the stones, and then fill up the remaining twelve inches with soil prepared in the following manner. Take some soil of a sandy nature, and mix with it one-fourth part of cow-dung and one-fourth part of leaf mould; mix it well together, and let it remain in a heap at least a month before use, turning it two or three times before using. The soil should be put in the bed in a moderately dry state, which would be a benefit greater than many could imagine, and should be left a week before planting. As to sorts, I should advise the young amateur not to plant any but large, well-formed, clear, and distinct-coloured sorts, for one bad-formed flower spoils the otherwise beautiful appearance of a whole bed, nor must he ever expect to raise a first-rate seedling except he discard all such trash from his collection. I should recommend a little moss, or some pebbles, to be placed over the surface of the bed during the

spring and summer months, which will prevent heavy rains from dashing the soil about the blooms, which, if not prevented, would spoil them, and will also retain a great deal of moisture in the soil. A watering of manure water in dry weather during spring and summer would benefit them a great deal, and they would amply repay for the extra labour bestowed.

ARTICLE IV.

ON THE DOUBLE-FLOWERING PRIMROSE.

BY ISABELLA C.

THERE is a sentiment in flowers; there are flowers we cannot look upon, or even hear named, without recurring to something that has an interest in our hearts; such is the case with the Primrose of our youth, the Cowslip, the Daisy, the May Flower, &c. The Primrose has very extensively occupied the poet's genius, and they have paid extra honours to this sweet spring flower, which unites in itself such delicacy of form, colour, and fragrance. Amongst the many I select the following specimens:—

“What next? a tuft of evening primroses,
O'er which the mind may hover till it dozes;
O'er which it well might take a pleasant sleep,
But that 'tis ever startled by the leap
Of buds into ripe flowers.”

KEATS.

“The Primrose, when with six leaves gotten grace,
Maids as a true-love in their bosoms place.”

W. BROWNE.

The following lines give a pleasant picture of a kind of idly-musing tranquillity:—

“As some wayfaring man passing a wood
Goes jogging on, and in his minde not hath,
But how the Primrose finely strew the path,
Or sweetest violets lay downe their heads,
At some tree's roote on mossie featherbeds.”

W. BROWNE.

Wordsworth alludes to the early passing away of the Primrose :—

“ Primroses, the spring may love them,
Summer knows but little of them.”

Ben Jonson calls it “ The spring’s own spouse.”

Herrick addresses some lines to Primroses filled with morning dew :—

“ Why do ye weep, sweet babes ? can tears
 Speak grief in you,
 Who were but born
 Just as the modest morn
 Teemed her refreshing dew ?
Alas ! you have not known that shower
 That mars a flower ;
 Nor felt the unkind
 Breath of a blasting wind ;
 Nor are ye worn with years ;
 Or warped, as we,
 Who think it strange to see
Such pretty flowers, like to orphans young,
To speak by tears before ye have a tongue.
Speak, whimpering younglings, and make known
 The reason why
 Ye droop and weep ;
 Is it for want of sleep,
 Or childish lullaby ?
Or that ye have not seen as yet
 The violet ? ”

The poems of Clare are as thickly strewn with Primroses as the woods themselves ; the two following passages are from the Village Minstrel :—

“ Oh, who can speak his joys when spring’s young morn
 From wood and pasture opened on his view ;
 When tender green buds blush upon the thorn,
 And the first primrose dips its leaves in dew !
“ And while he plucked the primrose in its pride,
 He pondered o’er its bloom ’tween joy and pain ;
 And a rude sonnet in its praise he tried,
 Where nature’s simple way the aid of art supplied.”

In another poem, after describing the village children rambling over the fields in search of flowers, he continues :—

“ I did the same in April time,
And spoilt the daisy's earliest prime ;
Robbed every Primrose-root I met,
And oft-times got the root to set ;
And joyful home each nosegay bore,
And felt—as I shall feel no more.”

This very lovely little flower ranks high in my estimation, and the following kinds form my present collection :—Double crimson, white, purple, straw colour, rose, deep yellow, pink, buff, lilac, and red. Each being very double and most distinct. I am fully assured if the entire of them were seen when in bloom in my flower garden, as presented to view from the breakfast-room, in a sunny spring morning, they would not fail to please every lover of flowers.

I grow them in pots, as it admits of affording them more readily the necessary protection in winter, and because the delicacy and beauty of their flowers renders it desirable that they may be placed in a position where these qualities may be duly appreciated and admired. I plunge the pots, covering them with soil, in the various positions in my flower-beds, so as to give the finest effect in contrast of colours. The most particular points in their culture are, first, the soil in which they are planted ; and secondly, the situation afforded them during the summer ; the soil in which they appear to thrive most permanently should be composed of equal parts of sandy turfy loam, and well reduced leaf mould, to which a portion of sharp sand may advantageously be added. This should be prepared some time before it is required, and frequently turned over and well blended together : the situation which they absolutely require in summer is a cool border, where they may receive the morning sun before it becomes powerful, but be protected from it during the hottest part of the day ; in such a situation they should be planted out in spring, as soon as they have done flowering, in the prepared soil already recommended. Water during dry weather should be copiously administered in the evening, or after the heat of the sun is somewhat declined, continuing it as circumstances may appear desirable, until the summer growth of the plants is evidently matured. About the latter end of September

they should be carefully taken up, and potted into wide shallow pots, of sufficient size not to cramp the roots, using the compost already recommended: the only further care they require is, to place them in a cold frame, where they will be just protected from frost, keeping them comparatively dry, and carefully watching that snails and slugs do not eat off the flower buds as they advance. It is scarcely necessary to say that light should, as much as possible, be admitted, never keeping the frame covered in the day, except during very severe frosts, and taking care to allow a free circulation of air in mild weather.

I have a quantity of pots, whilst the plants are in bloom, in my sitting room, where they flourish beautifully, and give a sweet cheerfulness to it.

ARTICLE V.

ON THE CULTURE OF THE BLETIA TANKERVILLIA.

BY MR. J. CHAPMAN, UNDER GARDENER, RUFFORD GARDENS IN NOTTINGHAMSHIRE.

THINKING the following remarks on the culture of *Bletia Tankervillia* might be serviceable to the readers of the *CABINET*, and tend in some degree to stimulate the cultivation of such a noble flowering plant, I forward them for your observation, and should you deem them worthy inserting in your valuable practical publication they are at your service. As soon as the plants have done blooming, remove them to a cool part of the stove, and let them remain a fortnight or three weeks, giving them very little water; you will then perceive the plants making numerous young shoots, all the old flowering shoots should now be cut quite down, and water totally withheld until the wounds made by cutting down are quite healed. The plants should now be potted in the following compost: two-thirds good turfy loam, one-third leaf earth, with a small portion of sharp sand added. The whole must be chopped together (not sifted), and used in a rough state, giving a good drainage, care being taken not to over-pot them, as over-potting would cause a too vigorous growth, and disappointment would be the result, by the plants not showing bloom the following season. It will now be advantageous to remove the plants to a warmer part of the house until they get well rooted in the fresh soil. They will then require a plentiful supply of water

throughout the growing season. As winter advances withhold water by degrees, and finally give no more, and not oftener than is necessary, to keep the plants from flagging, until you perceive the flower spikes showing, they will then require a plentiful supply to bring the bloom to perfection.

Should any cultivator of these noble plants adhere to the above directions, I have not the slightest doubt but the highest expectations will be realized by a splendid display of fine spikes of their pretty purple and buff coloured flowers. The silvery appearance of the under side of the petals forming a contrast strikingly beautiful.

As a proof of the efficacy of the treatment described, it perhaps may not be amiss to mention the success that I have met with from a plant so treated. It bloomed eleven fine spikes, and continued in bloom a month or five weeks, and at times there were upwards of forty flowers expanded at once.

ARTICLE VI.

THE FLORIST REFORMER.

BY MR. JOHN SLATER, FLORIST, CHEETHAM HILL, NEAR MANCHESTER.

The Auricula.

THE Auricula has suffered the least by *aliases* of any florist's flower; and the only instance I believe on record, is that of Oliver's Lovely Ann being sold out by a Middleton florist as a seedling, under the name of Kenyon's Juno. Little need be said in favour of the Auricula as a florist's flower, as it is an established favourite with all, from its blooming so early in the spring, as well as from the fragrance its bloom imparts. I have classed the Auricula in three divisions: the first for an amateur commencing; the second as a further addition to his collection; and the last as embracing all, with very few exceptions, that may be considered worthy a place in any collection.

For an Amateur's first Collection.

GREEN EDGED.

Rider's Waterloo.
Pollitt's Standard of England.
—— Highland Laddie.
Ollier's Lady Ann Wilbraham.
Oliver's Lovely Ann, (shown also
in the grey edged class.)

GREY EDGED.

Grimes' Privateer.
Kenyon's Ringleader.
Warris' Union.
Sykes' Complete.
Thompson's Revenge.

WHITE EDGED.

Taylor's Glory.
 Leigh's Bright Venus.
 Taylor's Favourite.
 Kenyon's Chancellor.
 Leigh's Pillar of Beauty.

SELFS.

Grimes' Flora's Flag.
 Berry's Lord Primate.
 Whittaker's True Blue.

ALPINES.

Emmerson's Favourite.
 Fieldhouse's Fair Rosamond.

Second addition.

GREEN EDGED.

Booth's Freedom
 Leigh's Colonel Taylor.
 Yates' Morris Green Hero.
 Page's Champion
 Ashton's Prince of Wales.
 Clough's Do-little.
 Barlow's King.
 Litton's Imperator.
 Howard's Nelson.
 Pearson's Badajoz.
 Pollitt's Ruler of England.
 Buckley's Jolly Tar.
 Faulkner's Ne Plus Ultra.

WHITE EDGED.

Wood's Delight.
 Ashworth's Rule All.
 ——— Regular.
 Taylor's Incomparable.
 Popplewell's Conqueror.
 Potts' Regulator.
 Ashton's Bonny Lass.
 Cheetham's Countess of Wilton.

GREY EDGED.

Fletcher's Mary Ann.
 ——— Ne Plus Ultra.
 Waterhouse's Conqueror of Europe.
 Thompson's Bang-up.
 Taylor's Plough Boy.
 Pearson's Liberty.
 Howard's Sweepstakes, (shown
 also in green edged class.)

SELFS.

Redmayn's Metropolitan.
 Netherwood's Othello.
 Berry's Lord Lee.
 Clegg's Blue Bonnet.
 Kenyon's Freedom.
 Kay's Despite.
 Garton's Stadtholder (yellow.)

ALPINES.

King of the Alps.
 Queen Victoria.
 Conspicua.
 Rising Sun.
 Fair Helen.
 Kettleby's True Blue.

Third addition.

GREEN EDGED.

Hepworth's Robin Hood.
 Moore's Jubilee.
 Lightbody's Star of Bethlehem.
 Stretch's Alexander.

SELFS.

Oddie's Rest.
 Goldfinch.
 Faulkner's Hannibal.
 Bradshaw's Tidy.
 Hepton's Squire Mundy.

WHITE EDGED.

Lily of the Valley.
 Wild's Bright Phœbus.
 Leigh's Earl Grosvenor.

GREY EDGED.

Atcherley's Alpine Shepherdess.
 Metcalf's Lancashire Hero.
 Ashworth's Newton Hero.
 Simpson's Lord of Hallamshire.
 Kent's Queen Victoria.

The amateur's first collection is such as are not high priced, yet good ; and the second addition contains all the first-rate varieties in cultivation, with very few exceptions.

ARTICLE VII.

ON GUANO.

BY AN AMATEUR FLORIST.

DURING the last summer, autumn, and winter, I had many experiments with the application of guano, a large bag of which I procured, and which has served me thus far, and I find it operates most beneficially on all kinds of greenhouse plants, by a proper attention in its application. To the delicate growing plants I find a smaller proportion is required than in the soft-wooded, quick-growing class. No exact quantity suited to each genus can be given. The plan I adopt is to give sparingly in the first application, and increase the quantity till I perceive its effects exhibit an improvement, and then keep to it. I give a small portion once a-week, scattering it upon the surface of the soil, and it sinks into the ball of earth gradually. Heaths, Epacrises, Tropæolums, Leschenaultias, Kennedias, Pimeleas, and similar plants, assume a darker green, and more vigorous in growth than I ever saw before. Hyacinths are much improved, and Chrysanthemums are improved by it more than any other plant I have applied it to. Using it with care, and having other due attention, every person will soon perceive its beneficial effects. I find it better to apply the guano by scattering over the surface of the ball, than dissolving it in water, and applying it so ; in the former its beneficial properties are gradually transmitted, but in the water much of it passes away rapidly.

Horley, March 25, 1846.

ARTICLE VIII.

REMARKS ON THE GUERNSEY LILY.

BY CLERICUS.

THE Guernsey Lily being a great favourite of mine, and blooming at the end of summer and autumn, renders it worth the attention of all lovers of flowers. These inducements prompt me to send a few particulars relative to it.

The Guernsey Lily—called in France, *le lis de Japon*—which has been removed by some botanists from the genus *Amaryllis*, and called *Nerine*, is extremely handsome: it is a native of Japan, but has long been naturalized at Guernsey, from which place it is named. There are from eight to twelve flowers on one plant; the circumference of each flower about seven inches. When in full beauty, it has the appearance of a fine gold tissue wrought on a rose-coloured ground; and when it begins to fade, it is pink. If beheld in full sunshine, it seems studded with diamonds; but by candle-light, looks rather as if it were spangled with fine gold-dust. When the flower begins to wither, the petals assume a deep crimson colour. The flowers begin to appear towards the end of August, and the head is usually three weeks gradually expanding. This plant is said to have been taken to Guernsey by a vessel wrecked there on its return from Japan. There, and at Jersey, it thrives as well as in its native country; and, from both those islands, the roots are annually dispersed over Europe.

These roots, or rather bulbs, are generally brought over in June or July: they should then be planted in pots of light earth, and refreshed with water two or three times a week, but very gently. Too much wet, especially before they come up, would rot the bulbs.

About the middle of September, such of the bulbs as are strong enough to flower will begin to show the bud of the flower-stem, which is commonly of a red-colour: they should then be placed where they may have the benefit of the sun, and be defended from strong winds; but by no means must they be placed close to a wall, or under glasses, which would draw them up weak, and render them less beautiful. If the weather be dry, they should still be refreshed with water every second, or if very hot, every day; but if there be much rain, they must be sheltered from it.

When the flowers begin to open, they should be placed under cover to preserve them from rain; but must be allowed plenty of fresh air, or the colours will lose their brilliancy and soon decay. If rightly managed, they will continue in beauty a full month; and, though they afford no perfume, their beauty alone entitles them to a first rank among the children of Flora.

After the flowers have decayed, the leaves will continue growing all the winter; they must be defended from frost, but should have as

much free air as possible in mild weather: when it is both mild and dry, they may stand abroad in the middle of the day. The roots should not be removed oftener than every fourth year, towards the end of June, or early in July; they should then be replanted in fresh earth, and the offsets planted in separate pots. These young plants will produce flowers the third year.

The bulbs of this Lily do not flower every succeeding year, as most bulbs do; but if they contain two buds in the centre, as is often the case, they will flower twice in three years; after which the same root will not flower again for several years, but only the offsets from it.

ARTICLE IX.

REMARKS ON THE FLOWERING STOCKS.

BY A LADY.

It now being the season for commencing raising some kinds of these lovely flower garden ornaments, I send a few remarks thereon for present insertion.

First, the kind commonly called the Queen's Stock-gilliflower—in French, *giroflée des jardins* [Garden Stock]—varies in colour from a pale to a deep red, and is sometimes variegated; but the bright red is most esteemed. As this branches very much, one seed only must be sown in a pot: this should be done in May; water should be given every evening; and, during the heat of the day, the pots should be shaded, to prevent the earth from drying too fast. They must be protected from frost during the winter, either by removing them into the house, or covering them with oak-leaves. The poorer the soil in which they are planted the better they will bear the cold. The following May they will flower, which they often continue to do all the summer, and probably many of the flowers will come out double. In autumn, after they have blown, they usually perish; but when they are in a very poor soil, or are growing among rubbish, they will often last two or three years.

The Brompton—in French, *giroflée à tige*—and the White Stock are varieties of this kind; the latter will sometimes live three or four years. This species is a native of the coast of Spain, Greece, Italy, Candia, and the isles adjacent.

The Stock-gilliflower has been long established in the English gardens, and is indeed a native of the cliffs by the sea-side. The old English name of Gilliflower, which is now almost lost in the prefix, Stock, is corrupted from the French *giroflier*. Chaucer writes it Gylofre, but, by associating it with the nutmeg and other spices, appears to mean the Clove-tree, which is, in fact, the proper signification of that word.

Turner calls it Gelover and Gelyfloure; Gerarde and Parkinson, Gilloflower. Thus, having wandered from its original orthography, it was corrupted into July-flower. Pinks and Carnations have also the title of Gilliflower from smelling like the clove, for which the French name is *girofle*. For distinction, therefore, they were called Clove-gilliflowers, and these Stock-gilliflowers. Gerarde adds the names Castle-gilliflower, and Guernsey-violet.

The Annual, or Ten-weeks' Stock—French, *le quarantain*; *le violet d'été* [summer violet]: Italian, *leucoio estivo* [summer stock]—grows about two feet high: there are many varieties, white, red, purple, and striped; and double and single varieties of each of these colours. It grows naturally on the coast in the South of Europe. By means of a hot-bed they may be raised earlier, but without that help the best season for sowing them is in March and April, and indeed in May also; if they are taken in when the weather becomes severe, they will continue to flower; those planted in May will last to the very end of winter, in the house. A middle-sized pot will contain three or four. To this class there is the valuable additions of the German varieties, requiring similar treatment.

The broad-leaved Shrubby-stock is a native of the island of Madeira; it blossoms from March to May: when the flowers first open, they are white, sometimes inclining to yellow; in a few days they become purple; hence this species has been termed *mutabilis*, or changeable. This is of quick growth, and may be increased by cuttings, taken as soon as the plant has done flowering: they should be housed in the winter.

Some persons increase the Queen's-stock in the same manner, planting the cuttings in March or April in pots three or four inches wide; in the middle of May they remove them into pots five or six inches diameter, and in July or August into full-sized ones, that is, eight or ten inches; but though these cuttings will generally root, they do not make such handsome plants as those raised from seed: it

is not, therefore, worth while to practise this method unless to preserve some fine double flowers. These flowers love the sun ; but care must be taken to supply in the evening the moisture which has been exhausted during the day. It will be observed, too, as an invariable rule, always to place a plant in the shade when newly potted, and to let it remain there till rooted.

There are other species of Stock, but these are the most desirable. There is a *Cheiranthus* called the *C. Quadrangulus*, a native of Siberia, which was introduced into the Paris garden by Jean Jacques Rousseau. The flowers are sulphur-coloured and sweet. It is propagated by seeds, and thrives in the open air, but does not last many years.

Garcilasso speaks of them as worn in the hair :

“ Loosely flow her golden locks ;
If she stays them 'tis with jasmines,
Chains them, 'tis with pinks and stocks.”

In this country, ladies seldom adorn themselves with natural flowers, and yet we have many that would bloom through an evening very well. The introduction of such a fashion might be an important advantage to the fair sex : should the rooms be very warm, and likely to injure the beauty of their floral ornaments, and cause them to droop prematurely, they would be compelled, like Cinderella in her fairy dress, to retire at a seasonable hour, before such a catastrophe should take place ; which would be of no small benefit to their health and beauty. In the East, ladies commonly wear natural flowers. Thunberg speaks upon the subject with a gallantry quite enthusiastic :

“ The ladies in Batavia,” says he, “ wear neither caps nor hats ; but tie up their hair (which is only anointed with oil, and has no powder in it) in a large knot on the crown of their heads, and adorn it with jewels, and wreaths of odoriferous flowers. In the evenings, when the ladies pay visits to each other, they are decorated in a particular manner about the head with a wreath of flowers, of the *Nyctanthes Sambac*, run upon a thread. These flowers are brought every day fresh to town for sale. The smell of them is inconceivably delightful, like that of orange and lemon flowers : the whole house is filled with the fragrant scent, enhancing, if possible, the charms of the ladies' company, and of the society of the fair sex.”

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ANONA PALUSTRIS. WATER OR ALLIGATOR APPLE TREE. (Bot. Mag. 4226.) Anonaceæ. Polyandria Monogynia. This plant was long since introduced into this country from the West Indies, but is still very rare. It is an evergreen tree, growing in its native country five yards high. The flowers are produced singly, each blossom about an inch across, petals thick and fleshy, pale greenish-yellow, with a red blotch within. The fruit is the size of a largish apricot, a yellowish-brown outside, and deep orange within. A plant has recently fruited in the hothouse in the gardens of Mrs. Sherborne, of Hurst House, near Prescott, in Lancashire.

ARISTOLOCHIA GIGANTEA. GIGANTIC-FLOWERED. (Bot. Mag. 4221.) Aristolochiæ. Gynandria Hexandria. It is a native of Brazil, and has bloomed in the hothouse collection of Messrs. Lucombe, Pince, and Co., of Exeter Nursery. It is an extensive climber. The Perianth (flower) is about ten inches long. The tube is bent like a syphon of a creamy-white tinged with green; it then expands into a large shell-like limb; the outside cream-coloured, netted with veins, the inside nearly white, and the beautiful net-work of purple veins renders it very interesting.

BOUVARDIA LONGIFLORA. LONG-FLOWERED. (Bot. Mag. 4223.) Rubiacæ. Tetrandria Monogynia. A native of Mexico, which has been received into the gardens of the Earl of Derby, Knowsley Park, near Prescott. It is a branching shrub, flowering abundantly. The flowers are produced in terminal corymbose heads, each corymb having from ten to twelve blossoms. The flowers are very fragrant, pure white. Each blossom has a slender tube near two inches long, and the four top-spreading petals are an inch across. It is a most charming species, well deserving to be grown in every greenhouse; and if it be as hardy as the former species, will make a valuable plant for the open air, in the flower garden, during summer.

ERANTHEMUM ALBIFLORUM. WHITE-FLOWERED. (Bot. Mag. 4225.) Acanthaceæ. Diandria Monogynia. Messrs. Lucombe, Pince, and Co., of Exeter Nursery, obtained seeds of this very pretty flowering species from Bahia. Its foliage is large and handsome, and it bears long branching spikes of pure white blossoms. The plant is shrubby, and grows about two and a half feet high. It requires to be grown in the hothouse, or a very warm greenhouse. This pretty white-flowered species will contrast beautifully with the fine rich blue of that deservedly-esteemed species *E. pulchellum*. Each blossom is about three quarters of an inch across.

GESNERA GERARDIANA. A native of South America, obtained by the Very Rev. the Dean of Manchester; it has bloomed with Messrs. Rollisson's, and R. G. Lorraine, Esq., of Wallington Lodge, near Carshalton. It very much resembles the *G. zebrina*. The terminal spikes of flowers are large. Each flower is about two inches long, scarlet above and yellow below, beautifully dotted with red.

INDIGOFERA DECORA. THE COMELY. (Bot. Reg. 22.) Fabacæ. Diadelphia Decandria. A dark green handsome bushy shrub, sent from the nursery

gardens at Shanghai, by Mr. Fortune, to the London Horticultural Society. The flowers grow from the axils of the leaves in horizontal racemes, they are of a light rose-colour and very handsome. It is supposed to be hardy, but its scarcity at present has prevented a trial; it flourishes freely in the greenhouse.

SACCOLABIUM AMPULLACEUM. FLASK-FORMED. (Pax. Mag. Bot.) Orchidaceæ. Gynandria Monandria. (Synonyme *Aerides ampullacea*.) A native of the forests of Sylhet, and brought by Mr. Gibson to the collection at Chatsworth. The flowers are borne on shortish erect spikes, and are of a beautiful bright rose colour.

SARCOCHILUS CALCEOLUS. THE SLIPPED FLESHLIP. Orchidaceæ. Gynandria Monandria. A native of Manilla, obtained by Messrs. Loddiges's. The flowers are white, the lip having a dash of yellow. Each flower is about two inches and a half across.

SCHUBERTIA GRAVEOLENS. STRONG-SCENTED. (Bot. Reg. 21.) Asclepidaceæ. Pentandria Digynia. A native of Brazil, the Countess of Wilton having procured it from thence. When *Stephanotus floribundus* made its appearance, it was generally considered the finest twining plant introduced into this country. The present new plant is equal to it. The flowers are produced in large umbellous heads, similar to the *Stephanotis*. The blossoms are larger, white, and very fragrant, and are borne in profusion. The plant blooms for several months successively. It may be obtained at the London nurseries.

SILENE SCHAFTA. THE SCHAFTA. (Bot. Reg. 20.) Caryophyllaceæ. Decandria Trigynia. A native of Russia; a hardy perennial herbaceous plant, producing numerous spreading branches, terminated by several bright rose and purple flowers, each being about an inch across. The stems rise about six inches high, very suitable for bedding, or rock work.

TRICHOSANTHUS COLUBRINA. THE SERPENT CUCUMBER. There has long been in this country what is termed the Snake Cucumber, but the present is only, we understand, in the collection at Sir J. H. Williams, Bart., of Bodelwyddan, near St. Asaph. The seeds were sent there from Puerto Caballo, in Equatorial America. It resembles a cucumber in growth. The flowers are white, beautifully cut into delicate threads. The fruits which hang down from the rafter trellis to which vines were trained in the Bodelwyddan Gardens resemble serpents, are six feet long, and when unripe are singularly striped with green and white, which changes as it ripens to a brilliant orange.

EPACRIS HYACINTHIFLORA. This very pretty variety has been raised in the nursery of Messrs. Henderson, Edgware-road, London. The form of the flowers very much resemble those of the Hyacinth. They are of a lilac-rose colour, large and waxy. It is a very neat and beautiful variety.

APHELANDRIA. A new species has been in bloom at Messrs. Rollisson's for several months. It is a vigorous plant, and bears very long terminal spikes of bright crimson flowers. It is a very beautiful and showy species.

LOBELIA ERINUS COMPACTA ALBA. This is a very neat variety of the dwarf-spreading *Lobelia*; it grows more erect than *L. erinus*, the flowers are larger, and a pure white. It is very suitable for masses in beds, or to form edging, and contrasts prettily with the blue kinds. It may be had at most nurseries.

RUELLIA MACROPHYLLA. LARGE-LEAVED RUELLIA. Stove Perennial. This fine herbaceous plant is a native of Santa Martha, according to Vahl. It bears large branching forked panicles, loaded with flowers of glowing scarlet, and nearly three inches long. In that state it was exhibited at a meeting of the Horticultural Society in October last, by Mr. Carlton, gardener to his Grace the Duke of Northumberland. It should be an instruction to all persons sending home South American seeds not to forget the fine species of *Acanthads* with which that part of the world abounds; for although many are but weeds, yet others are quite as striking for their beauty as this and the *Justicias*, *Apelandras*, &c. already in cultivation. They were formerly here in many instances, but requiring a moist warm atmosphere at a time when gardeners did not know how to obtain heat without dryness, they soon became sickly and died. Among

the reputed species of this very genus, we see in our herbarium the *Ruellia* *trivialis*, *grandiflora* and *longiflora* of Salzmann, all from the woods of Bahia, every one of which is a finer species than even this. Nor are the East India species inferior, as is attested by the numerous kinds of *Goldfussia*, *Strobilanthes*, *Dipteracanthus*, &c., with which botanists are familiar only, however, in their dried gardens. As they are easily propagated and grown, all these would be real acquisitions, and might easily be had. This species requires to be kept in a stove, and being a plant of free growth, will succeed in almost any sort of soil: During summer an ample supply of water should be given to its root, and syringed over head once or twice a day. After flowering it should be cut back to secure a supply of young shoots from the bottom, for flowering the following season. This may be done advantageously once or twice, but for such free-growing plants it is best to renew them every three years. In winter when syringing would be injurious, it will be necessary to keep up a humid atmosphere, as this plant is very liable to be attacked by red spider. It is easily multiplied by cuttings of young wood under ordinary treatment.—*Bot. Reg.*

SEDUM KAMTCHATICUM. Hardy Perennial. A handsome herbaceous plant, with yellow flowers like those of *Sedum Aizoon*, which it much resembles in habit. The leaves are red edged, and the stem has also a strong stain of that colour. It requires a light soil and dry situation. It flowers from June to August, and proves to be a fine showy plant for rock-work, where it blooms freely and remains long in succession.—*Journ. Hort. Soc.*

RHYNCHOSPERMUM JASMINOIDES. JASMIN-LIKE. A greenhouse climber. A slender climbing evergreen shrub, trailing along its branches, wherever it touches a damp surface, like ivy. The flowers are white, deliciously sweet-scented, and produced in small irregular corymbs on the ends of peduncles considerably larger than the leaves. Their calyx consists of five narrow smooth convex sepals, rolled backwards, and much shorter than the tube of the corolla, with a very shallow-toothed glandular ring surrounding the base of the latter. The corolla is about three quarters of an inch long, pure white, salver-shaped, contracted in the middle of the tube, with a partially spreading border, whose five divisions are wedge-shaped, truncate, and twisted obliquely.—*Journ. Hort. Soc.*

CALYSTEGIA PUBESCENS. DOWNY BINDWEED. Hardy Perennial. (Bindweeds.) North of China.—This curious plant approaches very nearly to the *C. sepium* or larger Bindweed of our English hedges, from which it differs in having firmer and smaller leaves, much narrower bracts, and a fine pubescence spread over every part. It is the first plant of its order that has been mentioned as producing double flowers. They are about as large as those of a double anemone, but the petals are arranged with the irregularity of the rose; they are of a pale very delicate pink, and remain expanded for some days. The calyx is quite unchanged. The exterior petals are very much lacerated and irregular in form; those next the centre are narrow, drawn together into a kind of cone; the next central are completely concealed by those without them, and diminish till they are mere scales, analogous to those which may be found in the first buds which burst in the spring. Not a trace can be found of stamens or pistil. It is probably quite hardy if planted in a dry situation. It requires a rich loamy soil and is easily increased by the roots. The roots very much resemble those of the common bindweed (*Calystegia sepium*). It flowers freely in July and August. It is a very handsome climbing plant, with large double flowers, which are produced freely.—*Journ. Hort. Soc.*

ABELIA FLORIBUNDA. Caprifoliaceæ. Greenhouse (or half hardy) shrub; rosy pink.

AZALEA OVATA. Ericaceæ. Hardy (or half hardy) shrub; two vars., one white, the other pink, both spotted.—*Journ. Hort. Soc.*

AZALEA OBTUSA. Ericaceæ. Greenhouse (or half hardy) shrub; deep red.—*Journ. Hort. Soc.*

AZALEA SQUAMATA. Ericaceæ. Greenhouse (or half hardy) shrub; rose colour.—*Journ. Hort. Soc.*

AZALEA INDICA, ALBA MAGNIFLORA. Ericacæ. Greenhouse shrub (hybrid); white faintly streaked.

AZALEA INDICA, VIOLACEA ELEGANS. Ericacæ. Greenhouse shrub (hybrid); bright purple.

COCHLEARIA ACAULIS. Cruciferæ. Hardy annual; white, changing to lilac.—*Journ. Hort. Soc.*

DAPHNE FORTUNI. Thymelacæ. Greenhouse (or half hardy) shrub; pale bluish lilac.—*Journ. Hort. Soc.*

EDGORTHIA CHRYSANTHA. Thymelacæ. Greenhouse (or half hardy) shrub; golden yellow.—*Journ. Hort. Soc.*

FORTUNÆA CHINENSIS. Juglandacæ. Small tree (or shrub); amentaceous.—*Journ. Hort. Soc.*

JASMINUM NUDIFLORUM. Jasminacæ. Greenhouse climber; yellow.—*Journ. Hort. Soc.*

AMARYLLIS LEONENSIS. Sierra Leone. The flowerscape bears two very large and very handsome flowers, of a beautiful delicate flesh colour, having a large dark centre to each.—*Van Houtte's Mag.*

ANTHADENIA SESAMOIDES. Bignoniacæ. A biennial plant, very similar in habit, and the flowers in form and colour, to the common Fox Glove, very fragrant, from Africa.—*Van Houtte's Mag.*

RIGIDELLA ORTHANTHA. Iridacæ. Mexico. The flowers are a rich scarlet, very handsome.—*Van Houtte's Mag.*

THE LONDON HORTICULTURAL SOCIETY.—At the meetings which have taken place this year at the Society's rooms in Regent-street, several new and rare plants have been exhibited, which we will briefly notice.

At the meeting held on February 17, Messrs. Henderson, of Edgeware-road, had a fine plant of *Phaius Wallichii*, and an *Oncidium*, allied to *Bauerii*, with seven strong spikes of flowers and three smaller ones; a *Cœlogyne*, with small white flowers; *Acacia oxycedrus*; *A. Hovea*, with lanceolate leaves and blue flowers; and a pretty little plant of the scarlet-flowered *Hoitzia Mexicana*, not often seen; a certificate was given to the *Phaius*. Mr. Parks, of Dartford Nursery, had a dull-red seedling *Corræa*, and a small rose-coloured seedling *Cineraria*. Mr. Halley, of Blackheath, had a pretty seedling *Camellia*, named *Beauté Parfait*, of small size, deep rose-pink, and cupped. Mr. Ivery, of Peckham, had four seedling *Cinerarias*, of good properties, named *Brilliant*, a light rose colour; *Fairy Queen*, white, with purple centre; *Perfection*, bluish purple; and *Colossus*, purple. Mr. Redding, gardener to Mr. Marryatt, of Wimbledon, had a neat plant of *Dendrobium nobile*; a species of *Aspidistra*, a curious Aroideous plant, with flowers close to the ground; *Odontoglossum caudatum*; and a seedling *Rhododendron*, with light scarlet-red flowers, not much spotted; a certificate was given to the *Dendrobium*. Amongst the plants from the garden of the Society were *Epidendrum Stamfordianum*, a species rarely seen; *Primula denticulata*, a Nepal species, quite hardy, and producing bunches of lilac flowers; and *Selago distans*, a useful white-flowered plant for cutting, blooms abundantly.

There was also exhibited a new Hygrometer from Mr. Simmonds, of Coleman-street, London, of which trials of the most satisfactory nature were stated to have been made at Chiswick. It was found to be much superior to the instrument known as Daniell's Hygrometer. It consists of a tube about a foot long, at the upper part of which is a dial-plate, which indicates by a hand the hygrometrical state of the atmosphere—the hand pointing towards the right to indicate dryness, and to the left to indicate wetness. Advantage has been taken of the known property of wood to contract by dryness, and expand by moisture. A strip of mahogany, cut across the grain, contracts or expands according to the moisture of the atmosphere to which it is exposed, and, in so doing, moves a pulley attached to a spring by means of a silken thread, which moves the hand on the dial-plate; a certificate was awarded to it. Mr. Fry, of Blackheath,

exhibited a model of a very useful contrivance, by means of which he proposes to examine the soil of plants growing in large pots without inconvenience. His scheme is registered as the "West Kent Garden-pot."

At the meeting on March 3, amongst the new plants, was a species of *Tropæolum* with yellow flowers, from Messrs. Veitch and Son, of Exeter, who received it from their collector in Peru; a certificate of merit was awarded for it. Messrs. Loddiges, of Hackney, sent a new drooping-flowered plant, not before known in Europe, from Tropical Africa, for which a Knightian medal was awarded. It was named *Ansellia Africana*, in honour of Mr. Ansell, who when he was out with the Niger expedition found it growing on the trunk of the Oil Palm, in the island of Fernando Po. It proves to be a very handsome thing, and will be an acquisition to the orchidaceous house. Mr. Robertson, gardener to Mrs. Lawrence, sent *Schomburgkia violacea*, a beautiful South American species; a new *Odontoglossum*, with spotted white flowers; and the rare *Phalenopsis amabilis*, or white Butterfly-plant; a Knightian medal was awarded.

The meeting held on April 7 was most distinguished by the production of a new species of *Fuchsia* from Messrs. Veitch and Son, of Exeter, which it was stated was originally discovered about 200 miles from Lima in Peru by Mr. Lobb, their collector. It proves to be a curious and rather handsome kind, producing an abundance of rose-coloured tubes, each being from about four to five inches in length, and entirely destitute of petals; the large silver medal was awarded. We hope to publish a figure of it shortly.

Mr. Robertson, gardener to Mrs. Lawrence, sent a splendid plant of the Indian *Phaius Wallichii*, with seven flower-stems of about five feet in height, rising from among the widely spreading dark-green foliage; two plants of the rare and delicate *Phalenopsis amabilis*, which were stated to have been in bloom for these six weeks; two *Azaleas*, named *Decora* and *Minerva*, both good, but the latter especially so, being covered with large bright-red, well-formed blossoms; and others for which a Knightian medal was awarded. A small group of *Orchids* came from Mr. Don, gardener to F. G. Cox, Esq., consisting of *Burlingtonia rigida*, a rare species; *Cœlogyne ochracea*; the showy *Cattleya Skinneri*; and *Epidendrum selligerum*. Several groups of seedling *Cinerarias* were produced. Mr. Henderson, of St. John's Wood, sent four sorts, remarkable for their dwarf habit and large spreading heads of bloom; they were named *Royal Crimson*, *Royal Purple*, *Isabella*, and *Beauty of St. John's Wood*; a certificate was awarded. Other seedling *Cinerarias* came from Mr. Best, of Reading, and from Mr. Ivory, of Peckham, all of them exhibiting some improvement on the kinds now in cultivation. From the garden of the Society we noticed *Coburgia incarnata*, a stove bulb recently sent from Peru by Mr. Hartweg, having a strong stem of about two feet in height, surmounted by a bunch of drooping red flowers; *Maxillaria suaveolens*, somewhat resembling *M. aromatica*, and, like it, possessing an agreeable perfume. A pretty little new Himalayan *primula*, somewhat in the way of *denticulata*, and possessing a very agreeable fragrance; it was considered to be hardy, but from its only having been recently received this had not, however, been directly proved. It was named *P. involucrata*, and it was mentioned that there are several varieties of it in the gardens. We also observed a cut specimen of *Habrothamnus fasciculatus*, which fully realised all that has been said of the beauty of this noble shrub; many have failed to grow it to perfection; these failures may, however, be referable to two causes—first, to the plant not being *Habrothamnus fasciculatus* at all, but *Cestrum roseum*, or some spurious variety; and, second, to its having been grown with too much care; it will not stand much heat; a cold greenhouse, free from damp, suits it best, and from its blooming at this season, when every itinerant blossom is a desideratum, it is likely to turn out an invaluable plant for the conservative wall.

We must not omit to notice a very large *Erica favoides elegans*, measuring at least five feet in height and as much in breadth, sent by Messrs. Fairbairn, of Clapham; it was a finely grown specimen, exhibiting, in a striking degree, what can be done with such things under skilful management; a Banksian medal was awarded.

GARDENERS' ASSOCIATIONS FOR MUTUAL INSTRUCTION.—In former Numbers of this Magazine we have remarked upon these very useful societies; and it is pleasing to notice their extension throughout the country. The following details of the meeting of the Stamford Hill, Clapton, and Stoke Newington Gardeners' Association has been forwarded to us, and which, we doubt not, will be useful to our readers.

Jan. 19.—Mr. MERRY in the chair.—Mr. CRICKTON, gardener to J. Foster, Esq., read a paper on the culture of Achimenes and other plants belonging to the natural order of Gesnerads. This order Mr. C. stated to contain several genera of great interest, five of which, namely, Achimenes, Gesnera, Gloxinia, Sinningia, and Niphea, he would treat of collectively. Beautiful, says Mr. C., as are the whole of them, the Achimenes are the most attractive; their dwarf bushy habit, brilliant flowers, and the length of time they continue to bloom, render them worthy of our care in cultivating them for the greenhouse or conservatory. The species longiflora, grandiflora, pedunculata, rosea, and picta, come from Guatemala; and coccinea from Jamaica; the other four genera are natives of the West Indies and of South America. They all like a stove heat, but they may also be grown without such convenience; for most of the Achimenes, and several of the Gloxinias, will attain a high degree of perfection in a cucumber-frame. The compost I employ is light sandy loam, turfy peat, and rotten dung, in equal parts, with a little silver sand; these are mixed well together in the autumn, previously to being used, allowing the mixture to remain exposed to the action of the air till wanted, but protected from rain. These plants are all readily propagated from under-ground tubers and from leaves; where the latter are preferred, they should be inserted in sand and peat, and covered with a bell-glass, plunging the pots in a hotbed; the bell-glass should be wiped dry every day until the plants are rooted, when it should be removed altogether, and air given to encourage their growth. In order to keep up a succession of blooming plants from April till the dark months of the succeeding winter, some are started at different times in spring, commencing about the middle of January. The bulbs are taken out of the dry soil in which they have been stored, and are potted singly (choosing the strongest), in 3-inch pots, well drained and filled with the above-mentioned soil, placing a little silver sand round each bulb. Gloxinias, Gesneras, and others which grow from the same bulb every year, are placed in pots just large enough to admit of their annual growth. After receiving a little water they are placed in a hotbed or house, where the temperature ranges from 60° at night to 70° by day, and the fermenting material in which they are plunged from 75° to 80°, not higher, as either excess of heat or water at this early stage of excitement would be injurious. When the pots become filled with roots they are shifted at once into those in which they are to be flowered. The Achimenes have the best effect when grown in masses; this is done by taking four plants out of small pots, and planting them in a larger one, or in a pan, of a foot in diameter or so, in proportion to the size required, with two or three inches of potsherds in the bottom, to secure perfect drainage; the top as well as the bottom heat is now raised to about 80°, keeping up a moist atmosphere. The Achimenes are syringed frequently, and air is given at every favourable opportunity, and water when necessary; but the latter with care, as many of the fleshy-leaved kinds are easily injured by too much water. When small pots are employed, liquid manure is given twice a-week, but never before the roots have completely filled the pots; while growing they are kept as near the glass as possible, removing them when in bloom to the greenhouse, but taking care not to expose them to cold draughts; shading is sometimes necessary to preserve the flowers. For winter blooming, Achimenes picta, Niphea oblonga, Gesnera zebrina, lateritia, oblongata, and bulbosa, are employed; but, although the others are not seen in bloom in the dark months of winter, Mr. C. believed them to possess capabilities for that purpose, provided a proper course of treatment were adopted. After they have done flowering, water is partially withheld; and, when the tops have died down, the roots are removed to any place free from frost and moisture till they are wanted.—Mr. MERRY remarked, that he started the bulbs before he took them out of the store-pots; he then planted three in a 5-inch pot (three of

which pots he shifted into a 9-inch pot as soon as they were filled with roots); he believed that they might be flowered throughout the whole year.—Mr. KENDALL recommended pans for *Achimenes*. He said that the best method of propagating *Gloxinia* was to lay the whole leaf under sand, and from it a number of plants would be produced.—Mr. CREXFORD disapproved of much shading or syringing, as both tended to elongate the young shoots; the best specimen of *Achimenes* he had ever seen was grown in a pan. If pots were used the soil should be poor and porous, or the plants would expend their energy in the formation of tubers.—Mr. TANT remarked, that out of a number of very healthy plants of *Achimenes* grown by him, the only one that did produce tubers at all grew in nothing but sand and charcoal.—Mr. WREN had always found the different kinds of *Gesnera* to do best in soil rather stiffer than what he used for *Achimenes*. He never syringed his plants.—Mr. M'DONALD thought the bulbs of *Gloxinia* should not be kept in a low temperature while at rest; he had lost several, and attributed it to the temperature of the place not being above 40°, but had never lost any when placed on a shelf in the stove.—*W. Sherwood, Hon. Secretary.*

CHLÆNOSTOMA POLYANTHA.—This is a greenhouse plant, of a slender, partially upright habit, attaining from 9 to 12 inches in height, and readily trained to a dwarf and compact growth. It forms a valuable addition to the flower-garden, being well adapted for beds, or for individual effect upon rock-work, producing a profusion of purplish-lilac flowers, with a yellow eye or centre, during the months of July, August, September, and October. From its extreme disposition to form premature flower-buds, a rigid adherence to the rule for obtaining a vigorous undergrowth, by shortening the extremities of its fore-shoots, is indispensable.

The cultivator will readily recognize in this plant a similarity in character to the useful *Lyperia pedunculata* and *p. alba* (*Buchnera pedunculata*). The latter, though a more robust plant, is inferior to the former, when properly "got up," in its larger and more lively-coloured flowers, and in its natural tendency to excessive fertility; so much so, that I anticipate nothing less than that an entire restriction of one or two plants from bloom will give a supply for successive seasons. In common with many others, this interesting plant is seen to disadvantage in the greenhouse during the spring months, with its prematurely scattered bloom; it is, nevertheless, one of those autumnal ornaments which contributes its share of interest when our summer friends are gone, and which, if less gay, is more constant, and, like those objects in nature whose highest qualities are only discernible in a strong light, it loves to expand its beauty beneath the bright sunshine. It is, moreover, a plant that is not to be valued singly, by comparison. It possesses a value and interest peculiarly its own,—answering well for masses in the flower-garden, where it forms a distinct and essential feature. The profusion of its flowers, the pleasing variety of its colours, and the long continuance of its bloom, fully compensate for the absence of more brilliant but less valuable properties.—*Gard. Chron.*

BROMPTON STOCKS.—Two sowings of these should be made annually; the first about the middle of May, and the second about the end of June. Sow in beds of a nice sandy loam, in an open situation, and about the end of August, if the weather is moist, or the beginning of September; transplant them into a border, placing five in a patch; at the same time pot off a store, to be kept in a frame over winter, for planting out in spring; as winters like the past invariably destroy them, except in very sheltered situations. Use 6-inch pots for the purpose, which should be filled with good loam, mixed with a little rotten dung; the more airy the situation is, and the dryer the plants are kept in dull weather, the better they will succeed. Plants that survive the winter in the borders are always finest; but those kept in pots are well worth the trouble. Seed three or four years old is better, and more likely to produce double bloom than that of one year old. If there be more single-blossomed in the patch than one, pull them up; as it is too late to raise plants to bloom the coming season, they can be procured of florists for a trifle.

C.

Floral Operations for May.

TENDER OR STOVE ANNUALS.—When it is desired to have some plants to bloom late in autumn, as Balsams, Cockscombs, Browallia, &c., seeds should now be sown, and the plants potted off into small sized pots; as soon as they are large enough, using a rich soil.

GREENHOUSE.—During the early part of May a few frosty nights generally occur; in consequence of which, it is advisable not to take out the general stock of plants before the middle of the month, or even, in cold situations, before the 25th. Whilst the plants, however, remain in the greenhouse let them have all the air that can be given during the day, and at nights, if no appearance of frost. Particular attention will now be required to afford an ample supply of water to free growing kinds of plants. Frequently syringe them over the tops at evening just before sun-set. If any of the plants be attacked with green fly, or any other similar insects, apply a sprinkling of tobacco water, diluted with water, by adding to one quart of the liquid five of water; in applying which to the plants, syringe them at the under as well as upper surface of the leaves: a repetition will rarely be required. This mode of destroying the insects is far preferable to fumigation, no injury being sustained by it even if applied in a pure state. The liquid can be obtained of tobacconists at 10d. or 1s. per gallon. Inarching Orange or Lemon trees may still be performed. Pelargoniums must be encouraged (see Articles upon). Ericas, strike cuttings this month, if the young shoots be firm enough. It is a good time for increasing most other plants by cuttings, striking in moist heat. Greenhouse Annuals, as Salpiglossises, Globe Amaranthuses, Balsams, &c., should be encouraged by a little warmth, and shifted into larger pots, early in the month, so that the plants may make a show, to succeed the removal of the general collection of greenhouse plants. Cuttings or suckers of Chrysanthemums should now be taken off, if not done before. Achimenes coccinea, longiflora, rosea, &c. plants should be potted singly into a light rich soil, and be forwarded in the stove, and repotted as they advance in growth, not too much at a time, but as root room appears necessary. Lobelias for the greenhouse should be similarly treated as to potting, &c. Seeds of greenhouse plants may still be sown. Repot any plants which require it, and not defer to any general potting, as is often done to the great injury of particular ones requiring it at present. Camellias now making their growth should be duly encouraged (see Articles in former volumes). Calceolarias be encouraged (see Articles in former volumes).

FLOWER GARDEN.—Continue to protect beds of Hyacinths, Tulips, &c. Carnations in pots should be encouraged by manure water, &c., in order to grow them vigorously; care in striking them will be required. By the middle of the month, half hardy annuals, as China Asters, Marigolds, &c., may be planted out in the open borders. Some of the best kinds may be potted, as done to the more tender sorts. Many kinds of greenhouse plants, as Petunias, Salpiglossises, Salvias, Fuchsias, Heliotropes, &c., should now be planted out in the open border. Dahlias that have been forwarded in pots, frames, &c., may be planted out towards the end of the month. Seedlings may be pricked out in a warm situation, having a deep, fresh, rich soil. When Stocks, Mignonette, China Asters, &c., are wished to bloom late in the year, seeds may now be sown, either under a frame or on a warm border. Slips of double Wallflowers should now be put in under a hand-glass. Seeds of biennials, as Sweet Williams, Scabious, Campions, &c., should now be sown. Tuberoses, for late flowering, should now be planted, either in pots or warm borders. Offsets of Campanula pyramidalis should be planted in rich soil, and placed in the greenhouse. Repotting must be continued till they cease to grow; by this means the plants will reach eight feet high, and be very branching. Double Rockets, pinch off leads of some plants to induce the production of laterals for future years supply.

In every previous Volume there are articles upon the Auriculas, Polyanthus, Carnations, Ranunculuses, Anemones, Tulips, Violets, Pinks, Heartsease, &c. We refer our readers to them, as affording directions and precautions valuable, especially at this early part of the season.

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MESSRS VEITCHS NEW FUCHSIA.

THE
FLORICULTURAL CABINET,

JUNE 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

MESSRS. VEITCHS' NEW FUCHSIA.

THIS new species of *Fuchsia* was discovered by Messrs. Veitch's collector, in Peru, about two hundred miles from Lima. It is singularly curious, but a handsome kind, producing a profusion of its rose-coloured tubes, but destitute of petals. It is a noble looking species, and well deserves a place in every collection of this very popular and beautiful flowering tribe of plants.

ARTICLE II.

OBSERVATIONS ON SOILS.

BY J. E. M.

IN the CABINET for April I said, in the few hints then thrown out to amateurs, that they were only prefatory to a few observations on some of the leading principles on which plant cultivation should be conducted. I now send you the first of these; and I may as well state here, once for all, that these short papers are not meant to satisfy inquiry, but merely to point in the direction in which we think correct information will be found, viz., in the study of nature.

Our first will treat of soils; a subject often brought before the
Vol. XIV. No. 160.

amateur, yet, we humbly think, often in such a way as must baffle his skill and perseverance to compound them. Were all the various earths and manures mentioned in many horticultural works really necessary for good cultivation, we would, at once, say to amateurs of limited means, give it up; for the time and expense necessary to collect them will leave no balance of satisfaction behind. But we believe that this is by no means the case; nay, we affirm, that without one tithe of the dirty compounds often recommended, equal, if not superior articles, may be produced.

In speaking of soil, we shall first consider its mechanical construction, and, again, its nutritive qualities. One great use of the soil is to afford the roots of plants permanent fixture, and from whence they may draw supplies of nourishment for their existence. In cultivating plants great regard must be paid to the form of the roots; and this in a greater degree when they are cultivated in pots. For the sake of clearness we shall divide plants into two divisions; the one having a mass of fine fibry roots; the other having a branching root of greater substance. Now any one can perceive that, to place a plant of the former division in a close adhesive soil, it will never be able to penetrate and extend its sponglits; and it is through them that all nourishment is received into the plant; they remain a pent-up mass; and, when water reaches them, it is not to disengage and liquify their proper food. By its sluggish motion through the soil it rots, instead of feeds them. This is no theory, but a fact that may be seen and understood. No nutriment in the soil is of any avail unless the soil be of that open consistence that the roots can freely run through it without too much resistance; and, moreover, in this state it has no communication with the air to keep it fresh; this also hastens the decay of the roots. Again, place a plant of the latter division in this soil, and, from the extension of its stronger roots, it displaces and opens the soil, making way for its fibres. Plants with roots of this description have a tendency to open the soil, and make it porous; and, owing to the fewness of its fibres, it requires a soil of greater resistance to afford it sufficient fixture.

From this we infer, that plants having a mass of delicate fibry roots, as heaths, epacris, &c., must be provided with a soil of a nature sufficiently open that the roots may be at liberty to run freely through it in all directions. In this condition, air and water find a

free passage through it, and both are necessary; and for plants having strong roots, especially when large specimens are cultivated, soil having a greater consistence is requisite.

We shall now shortly notice soil in its nutritive qualities, or the food of plants. The food of plants does not consist of anything solid, such as earthy matter. Plants have not the power of absorbing anything solid whatever. Their nutriment consists almost entirely in water,—water is not a simple, but compound element,—and carbonic acid; the decay of organic matter combined with water forming carbon. Hence the fertility of soils consists only in the abundance of organic remains. We are thus led to see how vegetation, century after century, luxuriates from the effects of her own partial decay; annually strewing around her the very elements necessary to her existence and extension. This is information of the most valuable description, and comes from a source which precludes the possibility of error. From this we infer that a soil mechanically right, and abounding naturally in organic remains, will abundantly answer all ordinary purposes.

But, as we have now so many plants, so to speak, artificially improved so much beyond their natural parents that a more than ordinary supply of the natural nutriment proper to them must be provided, in order that they may be able to support and perfect their extra developments, we need only mention the rose, the dahlia, the dianthus tribe, &c. This provision we have in a comparatively simple state in cow-dung; which is only vegetable substance subjected to a more rapid change in the stomach than it does from natural decay and atmospheric influence. This, however, in a recent state is quite unfit for the roots of delicate plants, owing to the rapid evolution of its gases; for these, although necessary to the existence of the plant, are, in this case, given out in such abundance as to gorge the absorbing rootlets, and cause a disarrangement in the internal economy of the plant that is almost sure to end in death, or, at all events, defeat the object in view, which we have presumed as being flowers. Before we can safely use cow-dung in the cultivation of the more delicate rooted plants, it must have undergone a considerable degree of decomposition; and in this state it still contains a great proportion of the proper food of plants. The proportion of it to be mixed in the soil must be in proportion to the nature and state

of the plant, and the degree of improvement to which it has been advanced from its natural condition. As an instance, the rose, growing in its wild state, is often found on a thin loose soil, often where there can be little organic substance near it, and the consequence is its poor appearance; yet is there sufficient for its few flowers, with fewer petals. But plant beside it one of our most improved double roses, and allow it the same amount of proper nutriment, and it will soon dwindle back to its original. Extra developments must be provided with extra support.

Soil must not only be porous and nutritive, but also fresh. If kept in a confined place, not exposed to the influence of the weather, it has, especially if rich, a tendency to become mouldy; and in this state it exerts a most baneful effect on the roots of plants. Frost is one of the principal agents in the preparation and melioration of the soil; it expels the deleterious effluvia that frequently exists in them, especially when it is kept in large piles. We advise amateurs to let no opportunity of exposing their soils to frost pass without taking advantage of it. It gives to it an openness and freshness, which, if neglected, no other agent can perform.

From these remarks it is easy to gather, that our principal soil is that of nature's own providing. Decomposed vegetation is the fit and proper food of plants; and the quantity of that to be regulated by the nature and demands of the plant.

When plants cultivated in pots or tubs become large, and are but seldom shifted, they should be top-dressed with compost, containing a great proportion of proper food. It may be used here much grosser in its nature; as, not coming in direct contact with the roots, its virtues are washed down in moderate supplies.

We shall close these remarks with a few words on charcoal. This is a substance of immense value to plant cultivators. Independent of its value in keeping the soil open and porous, and keeping up a constant communication between the air and the roots, it has the power of rapidly absorbing any extra supply of moisture or carbonic acid that may exist in the soil; and not only prevents those elements from doing injury, but retains them until wanted by the roots. It thus acts as a reservoir for the escape of extra stimulants. We advise its use universally. It forms, for the above reasons, the best drainage for plants; but it should also be scattered in the body of the soil.

ARTICLE III.

REMARKS MADE ON THE EFFECTS OF SITUATION AND EXPOSURE ON DIFFERENT KINDS OF PLANTS DURING WINTER.

BY A NOBLEMAN'S GARDENER IN YORKSHIRE.

As by far the greater number of plants cultivated in this country are exotics, we find they are variously affected by the changeable weather of our climate, as well as by the attending circumstances of the situations they are destined to occupy. Our knowledge, acquired by experience, of the constitution of foreign plants, has supplied us with rules for our guidance in the distribution of them. If we happen to be acquainted with the native habitat of a plant, we can judge pretty accurately what place it is most likely to thrive in with us. Tropical plants, for instance, we place in the stove, or conservatory; Australian, South African, Chinese, and South European, in the greenhouse; and those from the northern parts of Asia, Europe, and America, anywhere in the open air where we may have occasion for them, or which we may think best adapted for them. This is a very natural way of proceeding; but we are not always right in its application; some tropical plants are killed by placing and keeping them in the stove; because it is not so much the latitude whence they have been brought, as it is the elevation of their habitat above the level of the sea which determines their hardiness. Many plants are debilitated by confinement in the greenhouse, and very many extra-tropical plants are lost from being placed in what is considered the warmest or most sheltered situation.

These errors are occasioned either by a want of experience respecting the constitution of the plant, or from inattention to the extreme change of temperature to which it is exposed in its new place, or from ignorance that situation and exposure change the constitution of plants to such a degree that, while one is perfectly hardy if nursed on a northern aspect, another of the same kind shall be so tender and vulnerable on a southern exposure, that it dies, or is cut down to the ground, under the slightest frost.

Want of experience concerning the constitution of a newly imported plant may be said to be an excusable want of judgement; because we have no means of knowing without experience, there

being no general rule to guide. If, indeed, we are told that it is an annual from a warm country, we may safely conclude that it will succeed in this climate during summer, as many tropical annuals do. Or, if it be a perennial herb from the same country, we may find it answer with us if it be only protected from frost. But if tropical shrubs or trees are brought to us, we cannot, from any external mark, judge whether they are liable to be killed by frost or not. If they shed their leaves in winter, it is only a sign that they are winter-resting plants, not that they are hardy; because there are several tropical plants which are deciduous, as, for instance, the silk cotton-tree (*Bombax ceiba*); and many evergreens are as hardy as those that shed their leaves.

We often fail in preserving tender plants from inattention to local circumstances. We are liable to mistake shelter for warmth. Frost and the north and east winds are most dreaded in this country. A southern exposure, whether for the abode of animals, or a station for vegetables, is always considered the most eligible, merely, perhaps, because it is the most agreeable to our own perceptions. But in respect of vegetables we often err in this matter, both in choosing sheltered situations and southern exposures.

Cold (or rather cold air) is always most intense in humid situations, because there is the most copious evaporation. Such situations, in this country, are either on the tops of clayey hills, or in the lowest valleys, where there is either a lake, river, or brook. These low grounds are nearer the main springs, and often abound with them, whence exhalations are ever rising, though imperceptible; of course such a valley must always be more chilly, and more subject to keen frost than any drier or more elevated situations. Such glens, provided they are open to the south, are chosen as the most suitable for tender exotics, merely because they are more sheltered from the northern blast. In the summer, indeed, such a locality is most favourable to the quick and strong growth of every plant. The air, being generally calm and moist, conduces to vigorous expansion; and the very coolness of a summer's day or night, as felt in such places, is most propitious to luxuriant vegetation. These circumstances, however, instead of being beneficial to tender exotics, have a directly contrary effect; the summer excitement only renders them less able to bear the frosts, which fall upon them with redoubled intensity in

winter. And instead of the slow and sturdy growth which would have happened to a plant on a dry and breezy hill, or on a northern aspect, we have an enfeebled nursling, unfit to bear the rigours of our climate from sheer mismanagement.

Many proofs of the truth of these statements may be adduced, but we presume they are unnecessary, as the facts must have been repeatedly observed by our readers in general. The fact, however, is most important, not altogether for the sake of naturalising exotic plants, but for fixing the sites for gardens and orchards, which, if misplaced at first, give cause ever after for regret.

Not only do the exhalations from a moist valley generate cold, but the cold air which descends upon the hills after sunset is said to "slide down" and settle in the lowest place. So firmly is this believed and acted on by a well-known horticultural philosopher, John Williams, Esq., of Pitmaston, near Worcester, that in all cases where a garden is made on ground sloping to the south, that gentleman invariably advises the lowest boundary to be a hedge; or, if a wall, it be raised on grated arches high enough to allow the escape of the cold fleece of air accumulated within the garden. On the same principle, whatever may be the aspect, the upper boundary wall should be high and close, to intercept the descending current and divert it round the ends.

From these circumstances, then, it is fair to conclude that low situations should never be chosen for garden sites, or as the best places for tender exotics.

There is another circumstance not yet adverted to which operates injuriously on tender plants in sunny and sheltered valleys. There, they are sooner affected by the returning warmth and solar beams of spring, and hurried into a premature growth long before frosts are over, or the summer temperature confirmed. They are awake and putting forth their tender leaves and shoots before the exposed residents of the hill are in the least acted on. The first have their sap liquefied and in motion; that of the second is clammy and at rest; the first suffer because they have to sustain four degrees of frost perhaps, when least prepared for it, while the second have only to bear two degrees, and are otherwise fortified against it.

The native plants of the frosty regions of Siberia suffer greatly from late frosts when introduced into British gardens, not from the

severity of our seasons compared with that of their own, but entirely from the changeableness of the former. In Siberia the winter sets in at once, and the surface of the ground is soon covered with snow; every vegetable becomes instantly torpid, and in this state remains in perfect safety till the return of spring, or rather summer, as there is scarcely any spring season in that northern clime—no intermission of mildness to excite, and frosts to destroy the tender plants, as is so often experienced in this country.

The changeableness of our spring weather is, in fact, the greatest bar to our possessing very many plants, which, to have at all, must be guarded in some kind of building erected for the purpose. Our want of success in attempting to naturalise some exotics, shrubs and trees, however, may have happened not so much from the constitutional delicacy of the plants themselves, as to the injudicious manner, perhaps, in which the trial has been made. Exposed situations on the north side of a hill, and on poor and dry, rather than on rich and moist soil, is certainly the most eligible station for making a trial of the constitution of a foreign plant. Here it would not be excited into too early growth by the early sun of the day or of the season, nor would the aspect induce precocious growth. Its growth would be slower, but its shoots would be firmer in texture, and consequently better able to resist the destructive effects of frozen sap.

I cannot conclude these observations without first alluding to the ideas entertained about the acclimatation of exotic plants. The notion is founded on the supposition that, as animals have a tendency to accommodate themselves to foreign climates, or to the changes of temperature of their own native place, so plants may in like manner be susceptible of physical changes which would enable them to bear great diversity of climatal temperature; but, from all experience on this point, it appears, from many tropical annuals long cultivated in Britain, that they have not perceptibly advanced in hardihood since the first day of their introduction. Such are the runner kidney-bean (which, by the bye, is a perennial); the potato and cucumber among culinary vegetables; the China aster and balsam among flowers, and the melon among fruits. All these have been perpetuated by seeds that have been produced, ever since their first introduction into this country, but without gaining any additional protective habit against frost. We may, therefore, conclude that plants generally have been

formed for the climates to which they are indigenous, and have not that mutability of structure or of sap which would render them invulnerable to frost in a colder country, or to the incessant excitement of a warmer one without deterioration.

That many plants are now seen in the open air which were formerly in the greenhouse, or even in the stove, is well known; but this has not happened in consequence of any change in the constitution of those plants, but merely from being misplaced on their first introduction, for want of experience. *Aucuba Japonica*, one of our hardiest shrubs, was once under my care in the warmest end of a conservatory!

The effect of frost on tender vegetable bodies is mitigated by thawing it off with water before the sun shines upon them. This seems to contradict what has been before stated, as to dryness being a safeguard to plants. But the cases are different; perfect dryness is a security against frost, but when plants are loaded with frozen dew, and this allowed to be dissolved by the sun, a much more intense degree of cold is generated during the solution of the icy particles by the sun, than if they were suddenly dissolved by water. It is this increased degree of cold which ruptures the delicate vessels of the plants, and of course destroys them.

Sometimes we see the stem of a tender shrub, as a heath, for instance, rent in many pieces, whilst the youngest shoots remain unhurt. This is owing to the rigidity of the first, and the elastic texture of the second; the latter yields to the distending effects of the concealed sap, and afterwards returns to a healthy state; but the unyielding character of the old wood only renders it more destructable. The foliage of the grasses indigenous to cold countries is only withered by frost, but seldom destroyed, owing to the tenacity and elasticity of its structure.

ARTICLE IV.

REMARKS ON FLOWERS.

BY RISCEMANA.

As contributions on floral matters are requested, I offer the following remarks, if deemed worthy of notice:—

I was gratified by the reminiscence of an early favourite flower, the

double primrose, caused by the article upon it in the last Number, written by Isabella, and wish for some information where the numerous sorts therein named can be procured, as in my neighbourhood any are rare. A rose-coloured primrose and a pink one must be great acquisitions to the garden ; your correspondent does not inform us if they were raised by herself from seed.

In a former Number of this work, I gave some account of the beauty in Spring of separate masses of the purple and white Honesty, and have recently had the gratification of seeing my own plantations skirting the shrubbery, rendered very cheerful, before the forest trees were in leaf, by these lively flowers. I would also recommend the double yellow furze for the foreground of trees in the vicinity of a house, as the effect of numbers of them in the early spring is extremely brilliant ; they are at the present time one sheet of golden blossoms : they are planted alternately with hollies, which, so rapid is their growth, they have entirely overpowered.

In greenhouses now we seldom see the *Elichrysimum* or *Guaphalium* tribe cultivated, as they used to be before it became the plan to show so many varieties of the same species, as *calceolarias*, &c. I shall regret their becoming unattainable, having hoped that the present extended intercourse with distant countries would have added to those already familiar. I once raised a fine specimen of *Astelina Eximium* from seed ; it flowered freely, and I had several seedlings from it ; but they were all killed by being repotted during my absence, their roots being very delicate ; I have not been able to replace it, never seeing plants or seeds advertised. When we remember the permanency of these ornaments of our winter bouquets, it is more to be lamented that their cultivation is somewhat on the decline.

An idea has occurred to me, that a case somewhat similar to those called Ward's Cases might be constructed, to enable those having only a greenhouse to bring forward some stove plants ; it might have a glass top and sides ; hot water could furnish bottom heat, which could be regulated by a flat heater, so that an amateur might attend to it in a parlour, and thus succeed in bringing forward early those great summer ornaments of a greenhouse, the *Gloxinias*, *Achimenes*, &c. Perhaps some of your practical readers may realise this suggestion.

I have not observed any recent notice of the Scarlet *Rhododendron* ;

a fine specimen greets my eye from the window, which has been in flower several weeks, and has remained in the American bed two winters without any protection ; it is the greatest acquisition to the garden we have lately had ; its early flowering rendering it remarkably conspicuous, and, as it were, " alone in its glory."

In the article on Fuchias, superphosphate of lime is recommended to be applied to the surface of the earth ; any information as to quantity, price and where procurable, of this new enricher of the soil, would be gratefully appreciated.

ARTICLE V.

OBSERVATIONS ON THE TREATMENT OF NEWLY PLANTED DECIDUOUS PLANTS.

BY MR. J. D. PARKS, NURSERYMAN, DARTFORD NURSERY, DARTFORD IN KENT.

ON the impropriety of heading deciduous plants at the time of planting, as is the general practice with gardeners and others. This proceeds from the little knowledge they have regarding the physiology of plants.

It is the leaves which digest or convert the crude sap taken in at the roots into pure sap, for the support and growth of the plant.

Again, if the leaves be the means of attraction of sap upwards, and also if they attract electric fluid from the atmosphere, as is supposed they do, all this goes to show how improper to shorten or head them down, as electricity is a promoter of growth. By not heading, in consequence of length of wood, and that beset with buds, the plant has a considerable quantity of leaves early to perform all the different offices, to establish the plant ; whereas, if headed down, it is Midsummer almost before they have any quantity of leaves for any of the before-mentioned offices.

I have at this time a pear and an apple-tree in my nursery, a conspicuous proof of what heading down is. These having been left unpruned in the same row as others headed annually, those not headed are five times the size of those which have been headed. I know a tree planted with all its head it will make five times as much root as it would headed.

Two years ago a neighbour bought Quick of me to plant a hedge. I tried to persuade the man who planted it not to head it when

planted ; but old plans are so sweet they cannot be dispensed with or laid aside ; notwithstanding I did prevail on him to leave about three rods uncut. The proprietor of it was so dissatisfied with it, it not looking so green as the other, that he wanted it cut down at Midsummer ; I told him to have patience with it ; last spring it was cut down, now it is delightful to see how many eyes it broke, also the long clear shoots ; it will beat the other part which was cut down by far. A horse bit off the tops of a small portion of it at Midsummer, this is what some persons would have done as a summer clipping, but this part looks miserable in comparison with the other. Another part of it is contiguous to another hedge, this is miserable in appearance, showing what the hedge has done by robbing of light and also food.

I head no fresh-planted deciduous trees the first year of planting, except Peaches and Apricots, and these very long to what most persons do, except some near the bottom of the tree, which I head very short, to preserve the bottom with young wood.

A gardener five years ago had some Peach trees of me ; when he had them in his hand he said, " Where would you head these ; " I replied, " So and so ; " he said it was very long, but he would head some on my plan and some on his own ; last year he told me those he headed long were twice the trees the others were, he would never head short any more to establish trees.

ARTICLE VI.

ON WATER PLANTS.

BY A CULTIVATOR.

THE beautiful flowers of some of the water plants do at least equal, if not surpass, many of our most curious land plants, and especially those in the West Indies ; I am persuaded many curious persons would have made plantations of them if they had known how to have done it ; but though America exceeds us, yet we are not without them in England, as the water Lilies and Ranunculuses of several kinds, that are so frequently found in our rivers and ponds, and especially in Cambridgeshire where there is a great variety.

Water plants may be cultivated in gardens, although there are

neither ponds, rivers, or springs in them; and I recommend the doing of it in the method following:—

Either in garden pots glazed, without holes, or in troughs or cases of wood of oaken boards two inches thick, six feet long, and two feet wide, and two feet and an half deep; if they are for large plants that grow under water the troughs need not be so deep. The corners of these troughs should be strengthened with iron, and the inside should be well pitched, and the outside painted.

These pots or troughs should be filled one-third part with common unmixed earth for water lilies or pond weeds, or such as require depth of water for their leaves to swim in.

And for water Arums, water Plantains, and Ranunculuses, which love not so much depth of water as the former, they may be filled two-thirds with the same earth.

And so for those water plants that grow in bogs and marshes, the pots or troughs may be filled with the earth within five inches of the top.

This may be performed in April, when the water plants begin to appear, which may be planted from that time till the middle of June; and the vessels may be filled with water as soon as the plants are put into them.

It ought also to be observed, that many of the water plants are erratics, swimming about from place to place, as the wind carries them, taking no root in the earth, only striking their roots in the water; as ducks-meat, frog-bits, and water-soldiers; a small quantity of earth in the bottoms of the pots or cases will be sufficient to maintain the water in a right state for the support of these.

And, indeed, the best way to understand the right method of cultivating them in gardens will be to observe the mode of growth, and the exposure of those plants that we would civilize in our gardens. For the plain road of nature should be always followed, or at least kept in view, in order to obtain healthful plants.

In thus artificially cultivating water plants, it is my opinion that those that naturally grow in rivers should be frequently refreshed with spring water; but such as delight to grow in standing pools or ponds should be seldom interrupted with it.

It may also be observed, that water plants when they are removed are as long before they recover themselves, to renew their growth, as

land plants are. And whereas it is an usual thing to shelter land plants from the heat of the sun, after they have been transplanted, water plants must be treated quite contrary, and must be exposed to the sun after their removal.

The seeds of water plants are of two kinds; the one kind swimming on the top of the water, and the other sinking to the bottom as soon as it is shed, following the nature of their mother plants in that respect; for if the seeds of such plants which naturally swim on the top of the water should sink to the bottom, those seeds would not be in the proper station which is required for their growth; and so of consequence would perish; and so, on the other hand, the seeds of such plants which naturally grow under water, will not swim on the top of it.

It may also be observed, that in our climate no one water plant is an evergreen; but all of them are either vivacious or annual, and either lose their leaves down to their roots, or entirely perish, excepting only their seeds; for it is impossible that they should live and grow in frozen waters.

Therefore, in order to preserve their seeds, that we may be supplied with the several kinds from year to year, the plants are to be followed from the flower till they are ripe, and then they should be put into earth and water, to preserve them fit for vegetation the next spring; for that is the way that nature takes, and there is no difficulty of doing this in pots, &c.

They may be put into the pots or troughs as soon as they are gathered, and may there either sink or swim according to their nature, until the spring causes them to sprout; and they will prosper and require but a very little attendance.

I do not doubt but that the seeds of water plants will produce as many varieties as the seeds of land plants every year.

As to exotic water plants, I am of opinion that they are best to be procured and brought hither in the seeds; and whereas in America the waters are generally adorned with beautiful plants, if they were procured by some ingenious correspondent in those parts they may be put (each sort by itself) into bottles of water and earth with large mouths, and only to be covered with a linen cloth, for if they were stopped with corks the liquor would be apt to ferment; and these bottles might be put into a vessel of water, and so be brought to us;

and when we receive them they should be sown in the pots as directed before, and set into hotbeds, until the weather in England comes to answer the heat of the climate they came from.

When the seeds are gathered the person who does it should curiously observe the depth of the water they grow in, the quality of the soil under the water, the situation, and whether it is standing or running water they grow in ; and, above all, the taste of the water, whether it be fresh or salt, or brackish.

When we have made a good collection of varieties of water plants they may be disposed into classes, and the several tribes ranged in their proper order, which would be of use to such as read lectures on plants ; and for want of this is the occasion that water plants are so little known.

The most proper season for disposing and removing them is as soon as they are out of flower, and the leaves begin to decay, which is about the beginning of September. The stems or branches of them should then be cut off near the root, and their roots should be planted at due distances in the pots or troughs as before directed.

Those water plants which come from foreign parts must be sheltered in a greenhouse during the winter ; for if they, like the exotic land plants, so far preserve their natural season of growth, that they will only sprout in the spring-time of their native countries, they will sometimes flower with us in the winter season. And while they are in the greenhouse they should frequently be refreshed with water, somewhat warmed with the heat of horse-dung or the sun, and be allowed as much air as possible.

ARTICLE VII.

ON THE CULTURE OF THE COCKSCOMB.

BY T. H. T., A NORTH BUTEAN.

BEING a constant reader of your useful CABINET for the last four years, I am induced to offer a few remarks on the culture of the Cockscomb as I have cultivated it with good success for the last two years, invariably gaining prizes wherever they were exhibited. My method of culture is, I sow my seeds in leaf mould the beginning of April, placing them in a frame, ranging from 60 to 70 degrees of heat ; when about an inch high, I transplant them into 48-sized pots,

using the same mould, and replacing them in the same heat, as before, until they show flowers; I then select the plants I think likely to have the finest combs, and repot them into 12-sized pots, using a compost of one-fourth pigeon dung, to three-fourths leaf mould and decomposed frame dung, well incorporated together; I then give them a good watering with liquid manure regularly twice a-week. When full grown, I allow the heat in the bed to die away, covering the plants from the mid-day sun with mats, after which they remain in vigorous bloom for many weeks. By the above treatment my combs vary from 16 to 18 inches, by 7 inches. The sorts I grow is Brighton Prize and mixed German.

If this should be of any use to your numerous readers, I shall trouble you with some remarks on the Tulip, as I am trying some experiments on its culture.

[We shall be obliged by the promised favour.—CONDUCTOR.]

PART II.

MISCELLANY OF NOTES AND CORRESPONDENCE.

New or Rare Plants.

ÆGIPHILA GRANDIFLORA. LARGE YELLOW-FLOWERED. (Bot. Mag. 4230.) Verbenacea. Didynamia Angiospermia. In a former Number we recently noticed that Messrs. Hendersons', of Pine Apple Nursery, London, had a new and beautiful yellow-flowered *Rondeletia* in bloom. The plant had been sent to them, under that name, from Liege; it is, however, found to be a true *Ægiphila*. The plant is shrubby, growing about two feet high. It blooms very freely in the stove through the winter season, and the fine yellow many-flowered corymbose heads of tubular flowers produce a very pretty effect. The heads of flowers very much resemble those of the yellow-flowered *Bouvardia*.

BARNADESIA ROSEA. ROSE-COLOURED. (Bot. Mag. 4232.) Mutisianæ. Syngenesia Polygamia. From Peru and Brazil, and is in the Syon House collection. It blooms freely in winter on the plant-stove. It is a shrub, slender, and in its wild state trailing. The flowers are produced in a sealed head, similar to those of the *Elichrysus*; they are of a beautiful rose colour; it is a very pretty plant.

CEDRONELLA PALLIDA. THE PALE-FLOWERED. (Pax. Mag. Bot.) Lamiaceæ. Didynamia Angiospermia. From the north of Mexico. It is much like a *stachys*. Flowers tubular, in whorls; a pale rose colour. It is a greenhouse plant, and does well for beds or borders during summer. It is in the garden of the Horticultural Society.

CHOROZEMA TRIANGULARE. TRIANGULAR-LEAVED. (Pax. Mag. Bot.) Legu-

miuosæ. Decandria Monogynia. A very scarce, but highly interesting and beautiful species. It is a low, neat evergreen shrubby plant, blooming profusely in early spring months. The flowers are of a lively scarlet, with yellow eye, and rich violet keel. It ought to be in every greenhouse, and may be procured cheap.

CLITORIA TERNATA MAJOR. THE GREATER. (Pax. Mag. Bot.) Leguminosæ. Diadelphia Decandria. The present very splendid flowering variety has been sent to the lady of B. Harrison, Esq., of Blackheath, Kent, from New South Wales. The flowers are much larger than the very fine original species. The very rich azure blue pea-shaped flowers, produced freely, give a striking appearance. Each blossom is about two inches across, and the rich blue surrounds a white and yellow eye. It ought to be in every warm greenhouse. It is a sub-shrubby, twining evergreen plant.

ERANTHEMUM VARIABLE. THE VARIABLE. (Pax. Mag. Bot.) A native of New Holland. It is a slender, half-shrubby plant, which blooms nearly all the spring and summer in a warm greenhouse, or moderate stove. The flowers are numerous produced in spikes; they are of a lively purple colour, each blossom about three quarters of an inch across. The rich green leaves are enlivened by silvery-coloured veins. Messrs. Knight and Perry, of Chelsea Nursery, London, possess it.

FAGOPYRUM CYMOSUM. LOOSE-FLOWERED. (Bot. Reg. 26.) Polygonacæ. Octandria Trigynia. (Synonym Polygonum "Pescicaria" cymosum.) A hardy perennial, blooming from June to September. It grows about two feet high, forms a spreading bush like the other Buckwheats. Flowers white, in profusion. At the Horticultural Society's Garden.

MUSSENDIA MACROPHYLLA. LARGE-LEAVED. (Bot. Reg. 24.) Cinchonacæ. Pentandria Monogynia. From Nepal. A large spreading shrub, generally erect, but sometimes when vigorous spreads. Leaves large, flowers in terminal corymbs, many flowered, tubular, an inch long, golden yellow. It requires a hot-house treatment. In the garden of the Horticultural Society.

ONCIDIUM LACERUM. CUT-LIPPED. (Bot. Reg. 27.) Orchidacæ. Gynandria Monandria. From Panama. It has bloomed at Messrs. Loddiges's. It is of the chive-leaved section. The panicle of flowers about six or eight inches long. Each blossom near an inch across, bright yellow with a red stained labellum, and the sepals beautifully dotted with red.

OXYRAMPHIS MACROSTYLA. LONG-STYLED. (Bot. Reg. 28.) Fabacæ. Diadelphia Decandria. It was deemed a doubtful species of *Crotolaria*. It is a very pretty greenhouse shrub, blooming freely at the end of summer. It grows a yard high, or more. The pretty pea-like flowers are half crimson and half rose-coloured, and are produced in racemes.

SIDA (ABUTILON) VITIFOLIA. We gave a figure of this very beautiful species in a former volume of the CABINET. Messrs. Veitch had it in splendid bloom last year in the greenhouse, but, as we formerly noticed, it has endured the open air for some years near Dublin. In the greenhouse, however, it is a most charming flowering plant, very much deserving to be grown wherever it can be admitted. It is shrubby, growing from 4 to 6 feet high, flowers in terminal corymbose racemes, each blossom three inches across, bluish-lilac, the purple and golden styles and anthers furnish a very pretty circular eye at the centre.

SOLANUM LYCIOIDES. LYCIUM-LIKE. (Bot. Reg.) Solanacæ. Pentandria Monogynia. Mr. Hartweg discovered it in Peru, and sent it to the Horticultural Society. It is a charming, neat, greenhouse shrub. The flowers are of a very rich sapphire purple, having a golden eye and five reddish plaits. Each blossom is about an inch across; they are produced in profusion.

TORRENIA EDENTULATA. PURPLE-BLOTCHED. (Bot. Mag. 4229.) From the East Indies. It is an annual, stem erect, much branching. Flowers often three together, forming a raceme; tubular, an inch long. The limb of five lobes, yellowish-white variegated with purple. Tube pale-green tinged with purple. It bloomed in the stove at Kew very beautifully last summer.

ON PELARGONIUMS AND FUCHSIAS.—I have lately been re-perusing your account of the London shows held during the past season, that I might select therefrom some of the most successful Geraniums and Fuchsias, and intend to add, such as are different to those I already possess, to my collections. The following list tells the number of occasions from three upwards upon which each kind has been exhibited in prize collections, and undoubtedly all of them are good flowers. Probably, therefore, your insertion of this in the *CABINET* may be of assistance to some of your numerous subscribers, as it has to

AN AMATEUR FLORIST.

GERANIUMS.

Name.	No. of Prizes.	Name.	No. of Prizes.
Duke of Cornwall, Lyne	14	Conflagration, Foster	4
Madeline, Lumsden	14	Hector, Cock	4
Erectum	13	Milo, Cock	4
Lady Sale	11	Rosetta Superb	4
Superbum	11	Sarah	4
Sir R. Peel	10	Sunbeam	4
Hebe, Beck	8	Albina	3
Ackbar, Gaines	7	Aurora	3
Pulchellum, Foster	7	Black Dwarf	3
Alice Grey	6	Clio	3
Favourite, Beck	6	Constellation	3
Hermione	6	Cotherstone, Gaines	3
Sunrise	6	Desdemona, Beck	3
Symmetry	6	Gipsy Queen	3
Witch	6	Isabella, Beck	3
Achilles	5	Leonora, Beck	3
Cyrus	5	Marc Antony, Beck	3
Emma	5	Nymph	3
Enchantress	5	Pirate	3
Lady Isabella, Douglas	5	Repeal	3
Matilda, Foster	5	Rosy Circle, Beck	3
Prince of Wales, Gaines	5	Sir W. Scott	3
Queen Phillippa	5	Sunset, Beck	3
Rising Sun	5	Susannah, Beck	3
Roulette	5	Trafalgar, Gaines	3
Sultana, Foster	5	Zanzummin, Beck	3
Sylph	5	Zenobia, Beck	3
Camilla	4		

FUCHSIAS.

Coronet, Smith	9	Duke of Wellington, Epps	4
Goldfinch, Harrison	9	Formosa elegans, Thompson	4
Vesta, Smith	9	Pearl, Harrison	4
Chandlerii, Chandler	6	Brockmannii, Brockman	3
Gigantea, Smith	6	Defiance, Smith	3
Britannia, Smith	5	Duchess of Sutherland, Gaines	3
Eppsi, Epps	5	Gem, Harrison	3
Exoniensis, Pince	5	Hope, Barnes	3
Madonna, Harrison	5	Modesta, Smith	3
Prima Donna, Harrison	5	Paragon, Smith	3
Venus Victrix, Cripps	5	Reflexa, Smith	3
Cassandra, Gaines	4	Sir H. Pottinger, Ivery	3

BULBS FROM INDIA, encrusted in white wax, and afterwards wrapped in cotton, though three months so encrusted, were as sound and perfect as when first done.—*Journal of Hort. Society.*

ON THE SIZES OF FLOWER POTS.—If the Conductor would have the kindness to insert in the CABINET the different sizes of flower-pots (i.e. the depth and top diameter of each particular size, with the number to the dozen), it would be taken as a great favour; as I imagine our sizes about here are much smaller than what are sometimes recommended for plants to be grown in; nor could they be grown to such perfection in a pot of our size; and please say the price per dozen.

A SUBSCRIBER.

[With a view to have one uniform and much better understood standard, the following has been adopted about London:—

Old Name.	Usual Breadth in Inches.	Usual Depth in Inches.	New Name.
Twos . . .	18	14	18 inch.
Fours . . .	15	13	15 "
Sixes . . .	13	12	13 "
Eights . . .	12	11	12 "
Twelves . . .	11½	10	11 "
Sixteens . . .	9½	9	9 "
Twenty-fours . .	8½	8	8 "
Thirty-twos . .	6	6	6 "
Forty-eights . .	5	5	5 "
Sixties . . .	3½	3½	3 "
Thumbs . . .	2½	2½	Thumb.

It is therefore understood that an 8-inch pot was formerly termed a 24, and an 18-inch pot was termed a 2. Prices vary so much, we cannot satisfactorily assist our correspondent; circumstances influence as to this, as it regards the procuring original materials, as coals, &c.]

ON AZALEAS AND CALCEOLARIAS.—Having some Indian Azaleas in 48-sized pots, and not having been successful last year in obtaining bloom on some of a similar character, I am desirous of your opinion on the subject in your next Number; the plants are at present looking very healthy, but no appearance of bloom.

I have also some young Seedling Calceolarias which are at present remarkably vigorous, but I am desirous of information as to their future treatment, such as potting, watering, &c.

AN OLD SUBSCRIBER.

[AZALEAS.—Probably the plants had been kept in doors all the year; we have known instances of its being done, and it kept the plant in so continuous a state of growth, that it did not bloom from such treatment. Attend to the following directions, and success will result therefrom:—Turfy, sandy, peat soil, not sifted but chopped, which has been laid in a ridge for six months, and about a quarter of rich loam also kept rough, is a compost they delight in, using a free drainage. Care must be taken not to over-pot them, and to let the ball be highest at the centre, and be raised so that the water does not lodge about the collar of the plant, or the plant will be very liable to canker off. They should be re-potted just before they begin to push in spring; when growing, frequently be syringed over head, and kept in a temperature from 50 to 60 degrees. Have a liberal allowance of air and light, taking care they are not placed in a cold current, as it often destroys plants so situated, especially in the early spring months. When *done blooming*, about the end of July, place them in the *open air*, where they will be sheltered, not under the drip of trees, but where they will have the full afternoon sun. Here they will require to be frequently syringed. At the end of September, having *formed their blooming buds*, they should be taken into the greenhouse, and be placed at the back part near to the glass. Some attention is required in forming a plant so as to have a nice leading stem, and it be

clothed from the edge of the pot to the summit with a regular arrangement of blooming shoots. Occasional pinching off the points of the leaders or laterals will be necessary to effect the purpose, but with such attention any desired form is readily obtained. When required to bloom in winter or early in spring, it takes about five or six weeks from beginning to push till they are in bloom, and by regular introduction a constant succession from Christmas to July may be had. Some excellent articles on the Calceolaria are inserted in the volumes for 1843, 1844, and 1845, to which we respectfully refer our correspondent.]

ON HEATING A SMALL GREENHOUSE.—You will greatly oblige me by informing me, in the next Number of your instructive and excellent work, whether it is indispensably necessary that a small greenhouse which I am about to erect should be heated during the winter, in order to preserve the plants therein. It will be upon a very small scale, and I do not mean to attempt to grow any but such plants as I have been in the habit of having in my house. I am told, however, that unless I am prepared with some means of heating the greenhouse in the severe frosts of winter, I have no chance of preserving my plants. This will add a good deal to the expense, and I am unwilling to incur it unless I am well advised of its necessity. By doing so you will greatly oblige

A NORTH COUNTRY SUBSCRIBER.

[In our Magazine for February, 1840, a correspondent informs us of a very cheap and effectual plan he had adopted in heating a Greenhouse, which he recommended with the greatest assurance of success. It consists simply of a *fire-brick stove*, on the same principle as Dr. Arnott, with a cast-iron top and air-tight doors. He found it distribute the heat much more equally than an iron one. A stove of this description, 2 feet by 17 inches, and 3 feet high, is sufficient to heat a large greenhouse, requiring no chimney, a small pot tube being quite sufficient, and only consuming a peck of cinders per day. It requires a valve in the bottom door, by means of which the heat may be regulated to any temperature. We find Mr. Rivers, nurseryman, of Sawbridgeworth, has long used the iron Arnott's stove, but recently has erected the fire-brick ones, and even finds them succeed admirably for forcing houses for his Roses. To prevent dust arising from clearing away ashes, &c., the boy sprinkles them over first with water, so that no injury arises therefrom. Upon the top of the stove a pan is placed, the size of the square, a few inches deep, so that when it is necessary to have a moist atmosphere water is poured into it, and being heated thus becomes serviceable to vegetation. A stove of this kind would only cost about from 20s. to 30s., and would serve for a generation. Our correspondent would only require, as we understand, to keep out frost, and occasionally dry up damp, so that this kind of stove would answer most fully every purpose, and be a very trifling cost. Its erection in the greenhouse may be made ornamental, and should be placed near the front, so that the heat may be properly distributed.]

ROSES.—One of your correspondents inquires how the Crimson Hybrid China Rose "*Fulgens*" is made to flower? Simply by using the knife very sparingly in the pruning season. If you cut back the Hybrid Chinas, as you ought to do ordinary Roses, many, and especially *Fulgens*, will not flower the next season. I did not discover this for some time, and obtained an amazing growth of wood without any flowers; since I have shortened the shoots of the preceding summer about one-fourth part only of their length, I have found this rose bloom as freely as any. The best mode of training this rose and its brethren, *Beauty of Billiard*, *Brennus*, *Legouv  *, *Triomphe d'Angers*, &c., all splendid free-growing roses, is to get them standard high, and place against them an iron stake; the feet made square and flat, and eighteen inches long; the stake branching off at the top, in the form of a cross, so as to support an iron ring, three feet in diameter, which should stand about two or three inches lower than the head of the stock. At the winter pruning, a sufficient number of the shoots must be brought down all round the circle, and tied with tar twine. These roses, thus treated, will present magnificent heads of flower the following summer.

Rosa.

LONDON HORTICULTURAL SOCIETY, April 21st.—A paper was read from Mr. Maher, relative to the prevailing disease in Potatoes, the principal features of which were as follows. A thunder-storm, accompanied by high winds, having occurred in July, 1845, washing away the soil from the tubers, Mr. Maher was of opinion that the disease was caused by the heated water passing down by the cavity formed by the wind-waving of the haulm, and that the malady might be prevented from further spread by storing the tubers when taken up in perfectly dry earth. Specimens illustrative of the good effects of this mode of storing were produced. These evidently showed that they had at one time been diseased; but that its further progress had been stayed by this method of storing. Mr. Maher was also of opinion that the remaining sound portion of the tuber might be safely used as sets for the next year's crop. In regard to other matters, Mr. Rae, gardener to J. J. Blandy, Esq., sent various Orchids, especially a fine specimen of the showy *Cattleya Skinneri*, *Peristeria Humboldtii* with four pendulous spikes of dingy spotted blossoms, the sweet-smelling *Lycaste aromatica*, *Oncidium pictum*, *Huntleya violacea* with curious violet-coloured flowers, having something of the appearance of a bivalve shell, and a seedling *Azalea*. A Knightian medal was awarded.—From Mr. Alnutt, of Clapham, was a large specimen of *Kennedya coccinea*, for which a certificate was awarded.—Mr. Dobson, gardener to Mr. Beck, of Isleworth, received a certificate for a fine specimen of the larger and best variety of *Oncidium ampliatum*.—From the same collection were also *Oncidium luridum* and *papilio*, and the beautiful golden-veined Ceylon *Anæctochilus setaceus*, growing in company with the silver-veined American *Physurus* (—) under a bell-glass in an elegantly-formed Orchid basket. It was constructed of green slate, held together by brass clasps, and had altogether a very neat appearance, and was well calculated for being placed in a drawing-room.—Mr. Conway, of Brompton, sent a large coarse-looking *Fuchsia*, named *Goliath*, exhibiting a multiplication of the petals. Sports in this tribe being of frequent occurrence, it is not impossible that this, although probably the first double *Fuchsia* which has been exhibited, may be only the forerunner of a series of double-flowered varieties much more symmetrical than the subject in question.—Mr. Redding, gardener to Sir J. D. Broughton, Bart., produced two magnificent cut specimens of a purple *Rhododendron*, named *Alta-clerense Broughtonii*, and Messrs. Veitch and Son, of Exeter, sent a *Saccolabium*, stated to be new, but which, if not *S. micranthum* very much resembled that species. Messrs. Fairbairn, of Clapham, received a certificate for a famous specimen of *Erica vestita coccinea*, every branch of which was surmounted by a ring of bright red blossoms.—Mr. Moore, gardener to R. Hanbury, Esq., sent *Oncidium albo-violaceum*, one of the most delicate of its class, for which a certificate was awarded; and a sweet-smelling *Epidendrum*, from Honduras, apparently *E. varicosum*, was exhibited by Mr. Low, of Clapton.—Mr. Jackson, of Kingston, sent an *Epacris*-like plant, with small white flowers, from Swan River; and beautiful cut blooms of the Poppy *Anemone* came from Mr. Marshall, of Surbiton.—Mr. Glendinning, of the Chiswick Nursery, sent *Begonia albo-coccinea*, a pretty pink-flowered sort.—From Mr. Anderson, gardener to the Marquis of Bath, was *Lælia flava*, a pretty yellow-flowered species, forming a striking contrast with the purple-blossomed kinds. From the same garden was also a sample of Ash-leaved Kidney Potatoes, which were said to have been produced from diseased sets. These were clean-skinned fine looking specimens, and apparently free from disease. One which was cut, however, for the purpose of trying them, very soon became discoloured in the centre when exposed, which is characteristic of the disease in an early stage.—From Mr. Plant, gardener to J. H. Schroder, Esq., were *Vanda cristata*, with bright brown streaked blossoms of no great beauty, and a good specimen of the showy *Pimelea spectabilis*.—Mr. Ayres, gardener to J. Cook, Esq., of Brooklands, sent an exceedingly well-managed *Stephanotis floribunda*, loaded with sweet-scented white blossoms down to the very pot, and a well-grown *Ixora crocata*, a pretty species, well deserving of more extensive cultivation than it has received. A Knightian medal was awarded for the *Stephanotis*.

LONDON HORTICULTURAL SOCIETY, May 5th.—A curious novelty came from the gardens of the Duke of Northumberland, at Syon, in the shape of *Platycerium grande*; one of those remarkable Ferns which grow on trunks of trees, deriving their sustenance from the atmosphere, and multiplying themselves by means of little patches of cinnamon-brown bodies, attached to the under sides of the leaves, looking something like diseased spots. A number of seedling plants raised from these bodies was produced, exhibiting a curious peculiarity of growth. The young plant increases in a horizontal direction for a time, then strengthening, throws up from the centre numerous large fronds, having the appearance of antlers; a form of growth observed by all the *Platyceriums*. A Knightian medal was awarded for this noble Fern, of which not more than two or three plants are as yet in England. To ensure success in raising seedlings, it was mentioned that the seed must be sown immediately when ripe. Messrs. Henderson, of Pine-apple-place, sent *Hypocyrtia strigillosa*, a *Solanum*, with lilac blossoms, misnamed *Salvia azurea*, said to be suitable for bedding out, and *Tremandra verticillata*, a pretty little Heath-like Swan River plant, with beautiful violet flowers, having reddish-purple centres, the two colours strikingly contrasting with each other; a Banksian medal was awarded it. From the nursery of Messrs. Rollisson, of Tooting, came *Bifrenaria inodora*, a rather pretty Orchid, having much resemblance to *Maxillaria Harrisoniæ*. Mr. Beck, of Isleworth, again sent a handsome green slate basket—an improvement on that produced at last meeting—containing two Orchids; *Trichopilia tortilis*, remarkable for its twisted petals, and *Oncidium triquetrum*, a rare East Indian species, with small pink spotted flowers. Sir T. D. Acland, Bart., sent blooms of a purple seedling *Rhododendron* from the open ground. From Messrs. Keeling and Hunt, of Monument-yard, were two Yams, weighing respectively 10½ lbs. and 7½ lbs., and samples of unprepared Ginger in a fit state for planting. Specimens in spirits received by Mr. Low, of Clapton, from his son, who is now in Borneo, were exhibited. One of the plants was stated to be a beautiful species of *Hoya*, with large white flowers with purple centres. All colour had, however, been extracted by the fluid in which they were preserved, and therefore little can be said about them in their present state. The other was an *Epiphyte*, and was mentioned to be an object of extreme beauty. It was found by Mr. Low, growing on old trunks of trees, producing long chains or racemes of inflorescence, 9 or 10 feet in length. Living plants of these were stated to be in England, and if we should succeed in flowering them in perfection, they cannot fail to be striking objects in cultivation.—Of miscellaneous articles, Messrs. Edwards and Pell, of Southampton-street, Strand, sent two glass milk-pans.—From the Garden of the Society were *Corethrostylis bracteata*, a Swan River shrub, of which much was expected, but which has proved a partial failure, its pink flowers, although produced in abundance, wanting brilliancy of colour to render them sufficiently attractive; *Eriostemum buxifolium*, covered with delicate pink stars; three Indian Azaleas, a Cape Heath. *Gloxinia caulescens*, a *Cineraria*, a variety of *Gesnera Douglasii*, a rambling *Oncidium* from Guatemala, something in the way of *O. Wentworthianum*; a variety of *Gongora maculata*, *Cyrtocentrum hastatum*, and a plant named *Mina lobata*, raised from seeds collected in Mexico by Mr. Hartweg, in his new expedition to California. From the appearance of the foliage of this pretty little plant, nobody could doubt its being a *Convolvulus*, which it certainly is, but the flowers are very unlike those of that tribe; instead of growing singly and spreading, they are contracted at the points, and produced in long one-sided racemes, of a bright orange in an early stage, but becoming pale yellow when full blown. From the same collection was also a bloom of the curious stove climber *Aris tolochias gigas*, whose large concave helmet-like blossoms have attracted the attention of everybody who has visited the gardens for some time back. Various specimens of wood, exhibiting curious expansions of different forms, looking as if they had been carved, were produced. These were, however, not carved, except by the hand of nature; they were the work of a parasite nearly related to our Mistletoe, which, insinuating itself among the ends of branches, and increasing slowly, stops all growth in that direction. The tree, however, makes

an attempt to grow laterally, and in time almost encases the parasite in its woody embrace; at last the latter shrinks and tumbles out, leaving the beautiful anomalous expansions in question. These specimens were brought over from Guatemala by Mr. Skinner, and show what is going on in these respects in the woods of the tropics.

ON HEATING PLANT HOUSES, PIT FRAMES, &c.—Of late years considerable attention has been paid to improve the system of heating erections for horticultural and floricultural purposes. Much has been effected to advantage. Very recently a system termed the Polmaise has been often discussed, and in some instances has been put into operation in the erections of pits, &c. A great deal has been said in approval and disapproval of its merits; the following particulars relative to it by a nurseryman, Mr. Davis, of Liverpool, has been inserted in the "Gardener's Chronicle," which we extract, to afford our readers an opportunity of what the system is expected to realize.

Polmaise Heating.—A short time ago I was invited by a neighbour to inspect a new mode of heating horticultural buildings, which he termed the Polmaise system. He had erected a small pit running north and south, at one end of which, by way of experiment, he had built a chamber, in which he placed a very small iron stove. At the top of the chamber a hole was made into the pit, through which the hot air flowed at the bottom of the chamber. Immediately under the fire was the mouth of a drain, which ran to the other end of the pit, and through which the cold air was drawn. I went into the pit, and found there was a stream of hot air flowing from the chamber at a very high temperature, so hot that it had discoloured the paint on the wood directly above. A thermometer was placed at each end of the pit; the one most distant from the pit indicated 71° , and the other 70° . The current passing along the top could not have been less than 90° in the centre of the pit, and nearer the chamber much higher. He proposed to modify the heat at the entrance from the chamber, and moisten the air by hanging a wet blanket over the hole. This part of his plan I objected to, for many reasons, and being about to erect a pit of similar form, I resolved to get rid of the blanket, which I have, as well as of all the other objections given in your paper, and that too at a very light expense. I think I can convince you that I have set this grand principle free, and thus disencumbered it of the load of objections so unworthily heaped upon it. Every other mode of heating horticultural buildings will soon disappear; its cheapness, safety, and fitness will, I am sure, throw out of use the boiler, pipes, tank, and manure-bed. I will now attempt to describe my pit; it is 42 feet long by 8 feet wide inside, high roofed, having an east and west aspect, with a wall across the middle, dividing it equally. One half is used for propagating, and the other for greenhouse plants. At the end of the propagating compartment, I have built a chamber 30 inches wide by 36 inches long, and 24 inches high. In this is placed an iron stove, 17 inches long, 12 inches wide, and 12 inches in height; about 12 inches of the air-chamber is carried into the pit; the propagating part is covered with strong slates, giving a chamber of 21 feet long by 8 feet wide, and 30 inches deep. Into this the hot air flows through a hole at the top of the chamber, over which I have placed a piece of sheet iron, which is bent downwards to diffuse the heat and prevent its violence doing injury. From the bottom of the chamber a cold-air drain is carried the whole length of the pit, terminating with an eye at the end of the cold compartment. On this eye a slide is fixed to close the drain when required. In the large chamber there is another eye, which is left constantly open. I have built a small flue round the large chamber; the smoke is conducted through the hot-air chamber into the flue, and back into the chimney by iron pipes, which assist in heating this part as well as in giving an additional draught to the chimney, as will be readily perceived by the return-pipe passing through great heat. When I wish to warm the part intended for plants, I can do so in a few minutes, by drawing a slide which covers a hole that passes through the division wall into the large chamber. This

second chamber cannot be dispensed with, let you apply it to the greenhouse, stove, pit, or frame; the absence of a second chamber must prove fatal, or at least be very inconvenient; hence it is that we hear of scorched leaves, wet blankets, boilers, &c. With a second chamber none of these will be either heard of or required. The second chamber can be easily made in any house; in the Orchid house or stove it may be the stage, and if a greater top-heat is required, draw your slide, and immediately you have a stream of warm air charged with moisture to any extent required. This I can prove by experiments in my own pit. I have gone into the cold compartment when the thermometer has stood at 65° in the propagating part; having previously opened the door of my air-chamber about a quarter of an inch, and drawn the slide, the vapour gently flowing through has filled the place in a few minutes, at the same time gradually raising the thermometer until it has reached 60° . As respects the heat generally in the propagating compartment, I certainly never heard of any construction that would retain heat so long with so small a portion of fire. I got 10 cwt. of coke, which cost *3s. 4d.* (?); this I have been burning these three weeks, and I expect it will last three weeks longer. I have kept up a high temperature constantly. I have frequently left the pit at 65° at nine o'clock at night, and found it at 53° in the morning. On one occasion I left it at 60° , and found it in the morning at 59° . I have often left the fire for twelve or fourteen hours, and have found the heat very little diminished. Now for the expense of the apparatus. The whole of the iron work, including the plate and also the stone slab, cost *4l. 6s.*; and even this expense might be considerably reduced by purchasing a ready-made stove. The hot-air chamber and flues were built by one man in about a day and a-half. The flues I had built merely to prevent the escape of heat, and to save fuel. As for repairs, I do not expect any will be required for ten or fifteen years, except that the flues may want cleaning in three or four years.—*Isaac Davies, Larkfield Nursery, Wavertree, near Liverpool.*

DESTRUCTION OF RATS, MICE, &c.—Some gardeners are in the habit of employing arsenic for poisoning peas, beans, grain, meat, &c. which they put in places frequented by rats and mice. This practice is exceedingly dangerous for other animals, and likewise for children. It is a much more simple and far less dangerous plan to rasp or crumble some bread, and mix it with equal quantities of powdered quick-lime and sugar, and lay small parcels of this mixture in the way of rats or mice. These, being very fond of sugar, eat the powder, and the liquids of the stomach coming in contact with the quick-lime, produce an effect analogous to that produced by water on this substance; it becomes quenched. The violent inflammation which results causes death; and this may be accelerated by placing a vessel full of water within the reach of the animals.—*Revue Horticole.*

GARDEN STRUCTURES FOR AMATEURS.—For a person who wishes to “try to cultivate many things,” but who has “little money to spare for such purposes,” a low brick pit, either heated by a hot-water pipe or not, would be most suitable; without a pipe he might keep many greenhouse plants in winter, and grow them in summer; with a pipe and proper attention he might grow most things as well as they could be grown in a greenhouse. This pit may be partially sunk if the ground is dry; and it may or may not be large enough to comprehend a narrow path at the back inside, under a roofing of boards or slate, which would greatly facilitate all operations of culture. The pipe should pass along the front and return behind; the glass roof should be at a very low angle; a stage inside, of any kind, or a bed of sand, gravel, or coal-ashes may be provided for the plants; the pipes should flow through a small tank, which would then serve as a reservoir of tepid water for the plants; the pathway of course may be lowered much more than the rest of the pit to get head-room. Such a pit may be from six to nine feet wide, and should be heated by a row of three-inch pipe passed round it, attached to the smallest sized boiler.—*Gardeners' Journal.*

UNIV. OF
CALIFORNIA



TORENIA ASIATICA.

Floricultural Cabinet.

Univ. of
California



1, *ACHIMENES LIEPMANNII*.

2, *GLOXINIA CARTONII*.

Floricultural Cabinet.

TO THE
LIBRARY OF
THE UNIVERSITY OF
TORONTO

THE
FLORICULTURAL CABINET,

JULY 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

Plate I.

TORENIA ASIATICA.

THIS new and very beautiful species has just bloomed in the Royal Gardens at Kew Palace, and was exhibited at the last show at the Chiswick Gardens, where it was the admiration of all who saw it. It forms a neat branching plant, which appears to be easy of culture, and blooming so freely, is one of the most lovely of plants, and will merit a place in every collection.

Plate II.

1. ACHIMENES LIEPMANNII.

Our drawing of this new species was made from a plant which bloomed in our collection this spring. In habit, the plant resembles *A. grandiflora*, the flowers, however, are of a much more rich and deep colour than those of that variety. It is a strong grower, and succeeds well with the ordinary treatment.

2. GLOXINIA CARTONII.

This is one of the most beautiful of the many varieties of this interesting family. We believe it was originated in the garden of His Grace the Duke of Northumberland, at Sion House, Isleworth. It is

Vol. XIV. No. 161.

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a vigorous grower, a very prolific bloomer, and being of a bright and lovely rose colour, which is delicately softened off towards the margin of the lip, it cannot fail to please all who grow it. It can be had at any of the principal nurseries near London.

ARTICLE II.

ON HYBRIDIZING.

BY J. E. M.

IF we knew a person anxious for the attainment of some pastime combining dexterous manual management with considerable intellectual exercise, we do not know of one to whom we could more confidently point him than the pursuit of horticulture and floriculture. There is in the cultivation of flowers a charm for the most vacant mind; they also open up a field of study for the man of most austere thought; here, also, the most refined mind, alive to loveliness in every form, and beauty in every phase, finds ample scope for admiration; true, indeed, "Solomon in all his glory was not arrayed like one of these."

One of the greatest pleasures attendant on the pursuit of this art, consists in raising new and improved varieties of flowers; for, however beautiful flowers naturally are, there is no denying that they are doubly so when they come from the hands of the skilful hybridizer. In doing this, we are only taking advantage of the known laws that govern vegetable reproduction; it is on a small scale, art dictating to nature, and to that, in a great measure, we owe our many improved varieties of fruits and flowers. The field of experiment is boundless as the extent of nature itself. Thousands of flowers that our fathers looked upon as the pride and glory of their gardens, we now look upon as almost worthless as plants of ornament; were some old amateur of half a century ago to have a look at our gardens now, he would be bewildered by the blaze of beauty that would meet his eye; the change is not greater in form than in substance; the style of laying out gardens has advanced as well as the productions with which they are enriched. For the majority of our most beautiful varieties of flowers we are indebted to the skilful hybridizer; he soon gains a wonderful power over the colour and form of vegetable existence.

We shall suppose him admiring some beautiful flower, but, alas ! it is too delicate for our surly climate ; it comes from some country where frost never congealed its flowing sap, or blighted its opening beauties ; still he admires and covets it ; he has some of the same family in his garden, hardy fellows, that brave every blast ; but they want the beautiful colour and form of their exotic relations. Our amateur is one who has studied the structure and functions of plants, and the laws by which those functions are governed in their operations ; he thinks he may transfer the beautiful inflorescence of the exotic to its more hardy relations in the garden. And he does so ; art triumphs over all, his skill and forethought are abundantly crowned with success. In thousands of instances has this transfer of inflorescence taken place, to the gratification of every admirer of nature's most lovely productions. The skill of the artist is rapidly changing the face of the floral world ; a standard of perfection has been laid before the florist, and all are bent on its attainment. The art, however, is but in its infancy ; there is not that precision and certainty in results which we think will yet be attained. However, much has been done ; it is an employment full of the most pleasant excitement, and one to which we would invite all amateurs to share in.

As the object of hybridizing is to improve in form and colour, only the most perfect varieties of flowers ought to be chosen for this purpose ; little advance need be expected, unless that rule be strictly attended to, as flowers that have been artificially improved are very apt to run back to their originals, unless urged on by the same superior attention that has brought them so far as they are. The plants to be operated on must not only be of the best and most perfect varieties, but they must also be in a high state of health, otherwise good seed cannot be obtained. When the flowers of a plant, intended for the seed plant, are about to open, and just before they expand, the petals must be gently opened, and with a fine pointed scissors cut out all the stamens, taking care not to hurt the stigma. The reason for thus early cutting out the stamens, is to prevent the pollen on them from coming in contact with the stigma, which would defeat any attempts at cross impregnation by being done in the natural way. The plant to be operated on, and the plant to be operated with, must both be in the same state of forwardness as regards their blossom ; very soon after the petals are expanded is the proper time to apply

the pollen of the one to the stigma of the other; this may be done in various ways; either by bringing the flowers in contact, or by transferring the pollen on the point of a fine camel-hair pencil; for various reasons we prefer the former way when carefully done. After the operation is performed, which may be done two or three times to make sure, it is important that no contact with any other flower be permitted, either by flies, bees, or otherwise; to prevent that, we advise a covering of very thin gauze, or other similar materials, until the petals have faded, then to be discontinued. The plant must all the while be in such a situation as light, air, &c. will have free access, and due attention to watering, so as to keep it in full health.

In trying to gain a flower to the garden, it in general holds good, that seedlings from crossed flowers assume more of the blossom of the male plant, and in general character and hardiness the features of the mother, or seed plant, prevail; that is worth recollecting, when endeavours to produce the inflorescence of an exotic to stand our climate is the object of crossing. The above rule will also apply in the case of plants of bad habit, as many fine flowers often turn out. By attention and perseverance the flowers of a plant of bad habit may be transferred to one of the same family of fine habit, by impregnating the one of fine habit with pollen from the one of bad habit. The exact flower, in form and colour, may not be produced, but a near approach may, and often does turn out, and very frequently something much superior.

Now will be a good time to cross the many varieties of the calceolarias, some of the best shrubby ones may be impregnated with the finest formed and marked of the herbaceous ones, as they are not only more easily kept, but with good management make finer specimens, and the herbaceous and shrubby ones cross quite freely. Fuchsias may now be done also, operating with those having flowers of the largest size, of very clear distinct colours, and marked contrast. We would recommend the amateur to cross many of his perennials of distinct and opposite colours, such as Phloxes, Mimulis, Pentstemons, &c.; we need not mention Geraniums, Roses, Bouvardias, &c. However, in following this art, the amateur should be in possession of the standards of perfection for the different flowers as laid down, and acknowledged by the leaders in floral cultivation, so as he may be able to judge as to the relative value of flowers; other-

wise, he may toil away, and when he sends the product of his pains and perseverance for the inspection of some competent judge, he may perhaps find out that they are all worthless. How often is this the case? And in most cases, it proceeds from using inferior varieties as breeding flowers, those far behind the standard of excellence.

ARTICLE III.

REMARKS ON THE DISPOSING OF EVERGREEN TREES AND SHRUBS.

IF yews be planted in proximity to a mansion, for the sake of valuable shelter from bleak winds, they should not assume a prominent position, but should be interspersed with groups of Weymouth pine or bay, and be faced with laurels of luxuriant growth. By such contrast, the gloom of their dingy leaf is relieved with vivid and glossy green; or, if the contrast appear too strong, it may be mellowed by blending Portugal laurel in an intermediate position. In short, the recommendation cannot be too frequently reiterated, to substitute a studied assortment of tints for tasteless indiscriminate admixture. Let but the pictorial artist be permitted, or the amateur condescend, to transfer his principles of taste, the one from his easel, the other from his gallery, to occasional superintendence of English landscape-gardening, and he would contribute to the production of a living vegetative picture, constituting incalculable improvement in style, and commanding inevitable commendation from the spectator of cultivated taste. Nay, pleasure-grounds thus constructed would excite universal admiration, and impart universal gratification. Picturesque effect, copying and harmonising with natural scenery, elicits pleasurable emotions, even in such as "know not why, and care not wherefore." But, for accomplishment of such an important desideratum, science must be suffered to acquire unlimited confidence, in exercise of control; while prejudice must cease to plead for senseless "custom, more honoured in the breach than in the observance." An individual proprietor, or a public association, might rest assured of the anticipation of a result decidedly warranting the experiment.

In resumption of the topic of evergreen trees, for formation of a

ore-ground, it may strongly be recommended, while collecting perennial foliage of every species, to permit each variety of the beautiful *ilex* to predominate. Single or combined, from elegance of shape, delicacy of leaf, and duration of mantling, the *ilex* constitutes an embellishment almost unparalleled, yet too frequently neglected. Of faster growth than the deciduous oak, it attains expansion competent to the gratification of the painter's eye, with not less certainty, in the ordinary calculation of life's duration, than to please and profit posterity. It should, then, on various accounts, abound in the proximity of a decorated mansion, blended with masses of bay, backed by cypress, yew, and pinaster, and faced with laurel, laurestinus, Portugal laurel, privet, phillyrea, arbutus, with other flowering or variegated shrubs.

In similar relative situation, but in prominent advance from trees and unblossomed shrubs, flowering evergreens should invariably rank. Defying "the icy fang and churlish chiding of the winter's wind," the gay, cheering, precocious laurestinus anticipates the lingering arrival of an English spring. Tenacious of florage and permanently retentive of foliated decoration, it is entitled to numerical predominance over every blossoming shrub. By seasonable intervention and flowering profusion, it compensates for temporary diminution of ornament, in other component ingredients of a shrubbery, thus transferring to nipping winter's gloom the exhilarating semblance of summer's embellishment. Productive of such interesting impression in pleasing the eye, it certainly merits conspicuousness by prominent position.

The arbutus is a shrub peculiarly elegant and eligible, from perennial decoration, rapid growth, and superior beauty in shape and tint of leaf, from delicate blossom, and glowing berry. If suffered to remain unpruned, by gaining height, it becomes hollow and leafless beneath, retaining, like other evergreens, only two years' leaves, except about Midsummer, when the third years' are annexed, some weeks previous to the decay of the first. If not surrounded by evergreens more stunted in growth, for concealment of its lower leafless branches, it should biennially be deprived of a few long shoots, by application of the pruning-knife, the shears being calculated to render a shrub hideously cabbage-poled. Any shrub judiciously pruned will retain resemblance of its natural form. Artificial treat-

ment should be studiously disguised, and interposition of control be invariably concealed.

The phillyrea presents striking contrast to the gay or gaudy display of flowering shrubs, being characterised by singular chasteness and unobtrusive simplicity. It is of intermediate tint, diminutive leaf, and moderate growth; consequently is precisely adapted to an advanced position. It will there present a striking contrast to the imposing glare of variegated shrubs, whether holly, aucuba, or others of similar class. Here, too, that lowly, yet cheering harbinger of spring, the mezereon, should rank, interspersed with contemporaneous masses of hepatica, snowdrop, crocus, red daisy, and other vernal flowers, protected by a wicker fence. The cypress is adapted, by its taper form and elevation, to relieve a structure. The pyracantha, pomegranate, trumpet-pomegranate, white jessamine, but, paramount to all, the elegant tamarisk, supply ornamental covering to a wall. In a sheltered nook, even these may be surpassed by the beautiful single-blossomed myrtle. From mildness of climate, it abounds in Devonshire, perhaps in no instance so luxuriantly as in a garden of Mr. Neck's, curate of Kings Kerswell, where it acquires considerable size detached from a wall, as well as height when attached. The front of a house at Bishops Teington has long been covered to the top by myrtles of forty years' growth, protected from the easterly wind by a wing, and from the westerly by an equal defence, with the advantage of a southern aspect.

ARTICLE IV.

ON CULTIVATING PLANTS IN ROOMS.

BY A LADY AMATEUR CULTIVATOR.

BEING an admirer of the prevailing practice of cultivating greenhouse plants in rooms, and having had much success in their management, I am induced to draw up the accompanying remarks, judging that they may be in some degree useful to a portion at least of the readers of the FLORICULTURAL CABINET. If the hints are thought deserving a place therein, they are at your service. I do not wish it to be understood that I think plants can be grown as vigorous, or blossom as freely in rooms, as those cultivated in well-

constructed greenhouses, but I do not hesitate to assert, that those persons who may think proper to adopt the rules hereafter laid down, will find the result to answer every expectation.

Pots.—The necessity of having pots of various sizes is very obvious; the shape, however, should be uniform, in proportion as follows: viz., five inches deep, (inside measure,) five inches diameter at the top, and three and a half inches diameter at the bottom. Pans should be provided to correspond.

Draining.—Good draining is essentially requisite. Each pot, according to their different sizes should have from two to four inches deep of coal cinders, broken to the size of a child's common play marble laid at the bottom, first placing a piece of pot over the hole at the bottom, taking care the piece is not flat, but of that form that it will freely allow superabundant water to pass off.

Soil.—Take the top spit with the turf upon it from a common or old pasture field, not digging deeper than six inches, the soil should be entirely free from clay, and if the loam be sandy, it is preferable. To this soil add one-fourth of rotten horse dung. The longer this compost is laid together, the better. Before using it for planting in, it must be well chopped and broken, but not sifted at all through a riddle, as plants flourish far more freely in the soil when left open, there being a freer passage for water, heat, air, &c. to the roots. There are but five families of greenhouse plants that refuse to flourish in such a compost as the above. I do not include Camellias and Ericas (Heaths,) though I have no doubt but they may be cultivated in rooms with success; the latter tribe will be found the most tenacious of injury in such an habitation.

Potting.—I consider it but superfluous saying anything about propagating plants, when the cost of a small plant is so trifling, and may be obtained at most nurseries.

To begin with a plant procured from the nursery. In the first place, examine if the roots are coming through the hole at the bottom of the pot; if so, this points out the necessity of repotting, which must be repeated until the plant has attained the size required for blooming. The size of the pot for repotting in should be about two inches more in diameter than the one the plant is taken out of.

Watering.—River or rain water is the best, and should always be

of the same temperature as the room in which the plant is placed. The pot should always stand in a pan or feeder, but water should not be allowed to stand in it, excepting when a plant is pushing forth flower-shoots or stems, at which period many plants, particularly strong growing kinds, are much assisted by having a constant supply of it, not to glut them, but to allow that given to be dried up before a fresh quantity is given. Particular attention should always be paid that no plant be allowed to flag its leaves. In some stages of growth and situation, there will be found plants that will require water to be given them twice in one day, and at other times not oftener than once a-week. The best criterion to know when a plant requires water to be given, is when the soil on the top of the pot appears dry; then a flooding over is sufficient.

Filth.—With some kinds of plants the green fly is often found very troublesome. Sprinkle them over with diluted tobacco-water, or the plants infested may be put into a packing-case, and fumigated with tobacco-paper; by either application the insects will be effectually destroyed. The tobacco-water, or tobacco-paper, may be procured of the tobacconists at a very trifling cost; one shilling expended in either would serve for twelve months, with a number of plants. It is necessary to keep the plants free from dust, and to pick off decayed leaves; also frequently stirring the mould on the surface with a blunted stick. They will require washing over their tops once a week, either by means of a syringe or watering-pot. In frosty weather, watering over their tops should be performed in-doors.

Air and Light.—When the air is not frosty, a free circulation is at all times beneficial. In order to have healthful-looking plants, the branches should not be allowed to touch each other, and should always be kept as near the light as possible, frequently turning the plants, to prevent the heads being deformed, as the natural inclination is to lean towards the light.

Pruning.—Taking off the point of the main shoot of a woody plant when young, causes it to grow bushy, and to be formed of a handsome shape. Also, when a plant is making shoots for flowering, taking off the points of the most luxuriant shoots, tends to increase the quantity and size of the blossoms.

Ripening the Buds.—The singularly formed foliage, or shape of

some plants, may obtain for them a place in collections, but in general most plants are admired for their blossoms. In order to have them in perfection as well as profusion, it is highly essential that the embryo, or bud, be in a mature state. Bulbous plants, as Amaryllises, Hyacinths, &c., when the flower is decayed, the foliage must be encouraged for a few weeks; after which, it may be allowed to die away and remain at rest. The pots retaining the bulbs may be placed on a shelf, where they will be dry, until the time of re-potting, which in general will be in October. Those plants which produce their blossoms upon the wood of the same season, as Pelargoniums (Geraniums), Salvias, Roses, Chrysanthemums, &c., after flowering, require their shoots to be cut back to three or four buds, taking care to preserve the form of the plant, and giving but little water during the state of rest. When the plant begins to grow in the spring, having a larger pot given, and a regular supply of water afforded, and kept in moderate warmth, the blossoms will be produced. Herbaceous plants, as most species and varieties of Calceolarias, &c., after flowering, require their tops cutting off, and but little water during their rest; a large pot is given when the plants begin to grow. Deciduous plants, as Fuchsias, Hydrangeas, &c., when the leaves begin to fall, will require but little water, and rest until spring, when a larger pot will be necessary, and the shoots to be pruned back a little. Evergreens, as Azaleas, Myrtles, &c., when done flowering, require a larger pot, and their wood encouraging until it becomes ripe. Here I include the Cactus tribe, &c. At this potting, some of the species will require their old wood thinning out.

Choice of Plants.—The taste of persons being so dissimilar, no list of plants I could furnish would be able to give entire satisfaction; I therefore think it unnecessary to attempt it here, and must leave the amateur to suit himself, his experience and fancy being likely to afford the best directions on the choice of plants suitable for him to cultivate.

ARTICLE V.

ON CAPTURING THE COMMON GARDEN SLUG.

BY K.

DURING the past few weeks I have been making use of a more effectual means of capturing the common *garden slug*, than any plan of which I was previously aware.

It consists simply in placing near their haunts, or on the borders which they infest, small portions of the staves of which sugar casks are made. The wood is probably strongly impregnated with the syrup of the sugar, and the slug appears to be particularly attracted by it, for these pests of the florist will congregate in far greater numbers on the under surface of the wood than I ever found them do under the cabbage leaf which is so commonly recommended. If cut into small squares the wood has not an unsightly appearance, and will probably last for a length of time. The plan I describe is cheap and effectual, and if your readers try it I shall be glad to see in your pages the result of their experience.

ARTICLE VI.

ON THE PREVENTION AND DESTRUCTION OF INSECTS.

BY J. P. WALKER, ESQ.

A FEW observations upon the insect tribe may perhaps be acceptable to the readers of the CABINET.

The Green Fly, or Aphides, is one of the most frequent enemies to a garden, both in hot-houses, green-houses, and the open air. Wherever they have attacked during summer, and not been destroyed, they will be found deposited in the immediate neighbouring branches, during the winter. They are vivaporous in warm weather or situations, and oviparous in cold weather or situations. In the former case, the young is brought forth naked, and speedily begin to move: in the latter they are covered with a glutinous substance, and where deposited they remain during the winter, or cold season; the glutinous substance attaching them to the place, till dissolved by warmth. They then issue forth to the nearest shoots, and commit their depredations.

dations. When they thus appear, an effectual remedy is found in fumigating with tobacco, or other strong smoke, or an application of tobacco water. Either will speedily destroy all that are touched by it. But I have found that this insect can be best destroyed and prevented from attacking during summer, by washing the trees occasionally during winter with the soap-suds from the wash-house, applying it by means of the garden engine or the syringe;—the glutinous and greasy matter of the soap-suds preventing their movements: for, in addition to the difficulty of moving upon such glutinous matter, it has a tendency to secure them in the places where they are deposited. If, however they do creep forth, the alkaline of the suds is generally fatal to them. When a remedy and preventative is employed in the winter season of the year, it not only prevents injury to the shoots, but the time can be much more conveniently devoted to the purpose of destruction or prevention in winter than in summer. I can assure the readers of the *CABINET* that the washing as suggested is most effectual. This washing is equally applicable to the Caterpillar and Red Spider; in fact, my fruit trees, before attending to this washing, were always pestered in spring and summer: it was contending with a constant foe, and the trees and fruit suffering severely. But now my wall trees, vines, and stove plants, are vigorous and healthy, and no trouble or injury is sustained in summer. I have not had my trees at all attacked with mildew since I washed them; but the branches and shoots are of a fine bright and healthy colour. I am fully satisfied that considerable expense, trouble, and anxiety would be saved, if a judicious and frequent application of soap-suds was used.

ARTICLE VII.

CULTURE OF THE DOUBLE POMEGRANATE.

BY A DEVONIAN.

OBSERVING a query in a former number of the *CABINET*, on the blooming of the Double Pomegranate, I beg to forward this extract from Evelyn's *Silva*, which may probably be useful to the enquirer. "There are of this glorious shrub three sorts, easily enough educated under any warm shelter, even to the raising hedges of them;

nor indeed affects it so much heat, as plentiful watering. They supported a very severe winter in my garden, 1663, without any trouble or artifice; and if they present us their blushing double flowers for the pains of recission and well pruning, (for they must be diligently pruned of superfluous wood,) it is recompense enough. It is a *Perdifolia* in winter, and growing abroad, requires no extraordinary rich earth, but that the mould be loosened and eased about the root, and hearty compost applied in spring and autumn; thus cultivated, it will rise to a pretty tree. 'Tis best increased by layers, approach and inarching (as they term it), and is said to marry with laurels, the damson, ash, almond, mulberry, citron; too many I fear to hold. But after all they do best being eased, the mould well mixed with rotten hogs-dung, its peculiar delight, and kept to a single stem, and treated like other plants in the winter shelter." There seems, however, to be some contradiction in the quaint writer's statement, and most assuredly the plants do not require "the winter-shelter," (at least in the South of England,) to induce them to flower abundantly, but I know from experience, that they are capricious bloomers, and very often the whole strength of the plant is apparently engaged in the formation of countless branches and foliage. I have a double red pomegranate many feet high, trained against the front of my house, which for years never produced a single blossom; to induce it to flower, I removed all the soil around it, and filled the pit with a rich compost, but this plan was not successful, as for two seasons a solitary blossom only was produced. I was then recommended by a nurseryman to have some of the principal roots cut through, to check the luxuriant growth of the plant, which, early in the ensuing spring, was done; this plan succeeded perfectly, and towards the end of the summer, numerous blushing double flowers were produced—and the tree has ever since bloomed annually. I do not, however, recommend this plan; those plants are probably too young to blossom, whereas mine is upwards of thirty years old; notwithstanding, comparatively small pomegranate trees often flower abundantly, and I have seen one not above five or six feet in height, which had fifty blossoms open at one time,—the soil in which it was growing was a heavy loam,—almost clay, which kind of earth suits the pomegranate better than any other. I agree with Evelyn in considering this a "glorious shrub," and its brilliant flowers are assuredly a sufficient

recompence for any trouble we may take with it. Does your correspondent know the yellow variety? it is worth having, as its blossoms are similar in size and shape to the red, but of a delicate sulphur colour; there is also a white variety, but I am not acquainted with it. I hope my hints may be useful, though, being only an amateur, I cannot give that information which a scientific gardener is capable of imparting.

ARTICLE VIII.

ON THE MANAGEMENT OF THE DOUBLE FLOWERED POMEGRANATE, *PUNICA GRANATUM MULTIPLEX*.

BY MR. WILLIAM HILL, OF ROCHDALE.

THE Pomegranate is an old inhabitant of our gardens, but it seems to have been known to the Africans for many ages before it came into our possession; it is mentioned in holy writ, as being in the possession of the Egyptians more than 3000 years ago; it is a native of the South of Europe and North of Africa. Dr. Sibthorpe informs us that it is found plentiful in Greece, both in a wild and cultivated state; it was introduced into this country about the year 1548. The double flowering kind is much more esteemed than the other in this country, for the sake of its large fine double flowers, which are of a most beautiful scarlet colour; and if the trees are well managed, and supplied with due nourishment, they will continue to produce flowers for four or five months successively, which renders it one of the most valuable flowering trees; this sort may be rendered more productive of flowers, by grafting it upon stocks of the single kind, which check the luxuriance of the trees, and cause them to produce flowers upon almost every shoot. There have been various ways recommended to manage the pomegranate, so as to make it flower freely, and forty years experience has taught me what I conceive to be the most successful method. I do all my pruning in the summer season, training the branches at a regular distance, of about four inches apart, in the same way as I train a plum tree; towards the latter end of June I look over the trees, and remove all the shoots that are running to wood, at which time they are young and tender, and are easily removed without the assistance of a knife. Care must be taken

to leave all blossom shoots and spurs, these are easily distinguished from wood shoots ; this I do about three times during summer, and by this treatment the tree continues to flower four or five months, making a very grand appearance, and repaying by its beauty for every care a gardener can bestow.

P. S. The knife should never be used about these trees in winter, except to remove decayed branches, &c. They are easily propagated by layers or cuttings. To accomplish the first: in March, select some of the young branches for the purpose, give a little slit at a bud underneath, they will easily strike root without slitting, and I consider that method to be the safest ; lay them in the usual way, water them occasionally during the summer, and by the following autumn they will be well rooted so that they may be taken off and removed to any warm situation, to gain strength, before they are planted where they are to remain.

Cuttings.—If cuttings are required in June, take some young tops of branches, select a warm place in the garden, place them under a hand-glass, shade them in hot weather, and by autumn they will have taken root.

ARTICLE IX.

ON THE CULTURE OF THE CALCEOLAREA.

BY A SUCCESSFUL EXHIBITOR AT THE LONDON SHOWS.

THE perfection in culture to which the Calceolarea is now brought, as is seen especially by the specimens exhibited at the floral shows around London, is truly astonishing ; so great is the change effected, that the same kinds, as formerly grown, can scarcely be recognized under the improved mode of treatment. Being a successful exhibitor on many occasions at the shows referred to, I send particulars of the mode of treatment.

Young plants from the herbaceous and half shrubby kinds are readily increased by slips in October and November, the cool and damp of being then housed induces the off-shoots that are undermost to emit a quantity of small rootlets. Young, well-ripened shoots of the true shrubby kinds may be struck in summer, in sandy loam and peat, but with the greatest success when plants are kept in a cool and moist situation, in October and November, then rootlets are

produced ; such shoots being then taken off, and potted separately, establish themselves well before the severity of winter ; they should be potted into small pots, in a light sandy loam and vegetable mould equal parts. Immediately on potting, they must be placed in a close frame for about a month ; this closeness very materially contributes to an immediate growth, for, when exposed to a stronger current of air, it has a tendency to dry the foliage and injure the plant. Whilst in the frame, keep the soil moist, but be careful not to wet the foliage, as it would be likely to rot the plants. At the end of November, the plants should be placed on a shelf near the glass in a greenhouse to remain during the winter. In this situation they will grow freely, and if the pots become filled with roots, they should be re-potted into larger : this encourages them to grow in size, without which weak blooming shoots would in all probability push, to the injury of a proper bloom the following season.

At the beginning of March the plants must be re-potted into twenty-four sized pots, using wide-mouthed pots, as such keep the earth in a much better state than upright ones. Have a sandy loam enriched with well rotted cow-dung : the latter is found very beneficial ; being of a cooler nature than horse-dung, it is more suited to the Calceolarea. At the beginning of April, re-pot into twelve-sized pots, using the same kind of compost. At each potting a free portion of drainage should be given, to admit the water to run off easily upon the potsherds, lumps of loam, bog, and dung of two or three inches in diameter ; this admits a greater proportion of water being applied, and affords a corresponding quantity of nutriment. Fresh water and liquid manure should be regularly used from the potting into twenty-fours, using the liquid manure every third watering. The plants should be kept in the front part of a greenhouse during the time from autumn to the close of their blooming, which is usually the end of July. In hot sun a net shading or canvas shade is requisite over the glass. At that time, the stems being withered, I re-pot those desired for extra-sized plants the following year, by reducing the balls of earth and potting them into pots about half the size they had been growing in. After potting they should be placed in a cool frame, and shaded from hot sun for a month. Then expose them to the open air, placing them in the shade from mid-day sun till about the middle of October, when they should be removed into

the greenhouse as before. In March and April following they should again be re-potted, and treated as above named during the former year. It is the best practice to take off a quantity of offsets each autumn, so as to have a stock of large two-year-old plants to bloom every season.

By this mode of treatment plants may be produced from two to four feet high, stocked with blooming shoots in every part, so as to form a head of flowers a yard in diameter.

Where there are a considerable number of plants, it is advisable to turn out some into the open border, choosing a situation where they can have shade from eleven till four o'clock in the afternoon, the intense heat of mid-day sun being injurious to the flowers of *Calceolarias*.

To raise seedlings. As soon as the seed is ripe, which from earliest blooms will be the case by the middle or end of July, sow it in pots placed in a shady part of a hot-bed frame or forcing-house. The plants soon come up. Take care to keep the soil moist but not wet, as the tender roots are soon rotted off. When sufficiently strong to pot off, which they usually are by the middle of September, pot them into sixty-sized pots, well drained, in a compost of equal parts of well rotted vegetable mould and loam. After potting, place them in a cool frame, kept close and shaded from mid-day sun for a week or two, gradually exposing them to the air. When strong enough to bear a removal without injury, have them taken to a greenhouse and placed in a shady situation. By the end of autumn the plants are quite strong, and will withstand a winter's treatment without injury; and by thus getting them forward, they bloom during the following season. This mode of immediate sowing of the seed after gathering will not do for late collected seed, as very young plants are liable to damp off during winter.

ARTICLE X

OBSERVATIONS UPON THE ORANGE TREE.

BY CLERICUS.

It has been with much pleasure I have observed a great increase of taste for small bouquets of fragrant flowers to adorn and regale the sitting-rooms, dining-rooms, &c. of the nobility and gentry in and

VOL. XIV. No. 161.

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around London. This delightful result I see has induced the nurserymen and florists to give special attention to the production of such flowers, more particularly for spring and early summer, and the flowers of the orange tree are most deservedly in high estimation. Thinking that a few particulars relative to it, would, at this season, too, be acceptable, I send the following for insertion in the "FLORICULTURAL CABINET."

The derivation of the word Citrus is unknown: some say it is the name of a place in Asia; others will have it of African origin; some fix it on the Arabian.—*French*, l'oranger.—*Italian*, melarancio; arancio; melangolo.

The orange most known in England is the China or Portugal Orange, so called from its having been brought from China by the Portuguese. There are several other varieties in the English gardens; as the Turkey-orange, the Double-flowering, the Dwarf or Nutmeg-orange, the Seville, &c.

The leaves of the Dwarf-orange are very small, and grow in clusters; the flowers grow very close together and appear like a nosegay, the branches being completely covered with them. This species is very ornamental; and, when in blossom, will perfume a room most delightfully.

The Seville Orange is the most hardy, and has the largest and most beautiful leaves. The China Orange rarely produces good fruit in England: the varieties with striped leaves never produce it good, nor do they bear so many blossoms as the plain ones.

To have Oranges in perfection, it is considered necessary to graft the trees, even in the warm countries of which they are natives:—"We rode deeper into the wood, and refreshed ourselves with wild Oranges (*laranja da terra*), which have a mawkish, sweet taste. Oranges, to be good, must be grafted; even in Brazil, if suffered to grow wild, the fruit is flat and rather bitter. Their flowers emitted a delicious smell, and attracted a great number of humming-birds."—*Prince Maximilian's Travels in Brazil*, p. 76.

In another part of his work, the same author says: "The heat was intense; we therefore refreshed ourselves with cold punch and excellent Oranges, which in many parts may be had gratis. This excellent fruit can be eaten without injury to the health, even when a person is over-heated; but in the evening it is said not to be

wholesome. Much more caution is necessary in eating cocoa-nuts and other cooling fruits."

The Brazilians are probably the only people who think so much caution necessary in eating oranges, as to refrain from their use in the evening.

The following passage may be found in a note in Koster's Brazil: Lobat says,* "The orange is cut into two pieces, and is rubbed violently upon the wound."—Vol. II. p. 196.

"The first China Orange," says Evelyn, "which appeared in Europe was sent a present to the old Conde Mellor, then prime minister to the king of Portugal; but of the whole case sent to Lisbon, there was but one plant which escaped the being so spoiled and tainted, that, with great care, it hardly recovered, to be since become the parent of all those flourishing trees of that name cultivated by our gardeners, though not without sensibly degenerating. Receiving this account from the illustrious son of the Conde, I thought fit to mention it for an instance of what industry may produce in less than half an age."

Mickle, in the History of the Portuguese Empire in Asia, prefixed to his translation of the *Lusiad*, informs us "that the famous John de Castro, the Portuguese conqueror in Asia, was said to have been the first who brought the Orange tree to Europe, and to have esteemed this gift to his country as the greatest of his actions." He adds, "that Orange-trees are still preserved in Cintra, in memorial of the place where he first planted that valuable fruitage."

The Orange tree is thought to produce more fruit, if deprived of some of its blossoms. Rapin, in his Poem on Plants, recommends that the nymphs should be allowed unchecked to pluck the silvery blossoms, to adorn their bosoms and their vases. "Let your wife, your children, your whole family be there," says he, "and let them bear away a portion of the fragrant spoils."

The Orange is supposed to be the golden apple presented to Jupiter by Juno on the day of their nuptials. These apples could be preserved nowhere but in the gardens of the Hesperides, where they were protected by three nymphs, bearing that name, the daughters of Hesperus; and by a more effectual and appalling guard, a never-

* They employ the juice of sour oranges with wonderful and infallible success in the cure of ulcers, however old and obstinate.

leeping dragon. It was one of the labours of Hercules to obtain some of these golden apples: he succeeded, but, as they could not be preserved elsewhere, it is said that they were carried back again by Minerva.

Lucan is particularly earnest that no one should doubt this story :

“ Here by the wakeful dragon kept of old.
 Hesperian fruits grew rich with living gold;
 Long since the fruit was from the branches torn,
 And now the gardens their lost honours mourn.
 Such was in ancient times the tale received,
 Such by our good forefathers was believed:
 Nor let inquirers the tradition wrong,
 Or dare to question now the poet's sacred song.
 Then take it for a truth, the wealthy wood
 Here under golden boughs low-bending stood:
 On some large tree his folds the serpent wound,
 The fair Hesperian virgins watched around,
 And joined to guard the rich forbidden ground.
 But great Alcides came to end their care,
 Stript the gay grove, and left the branches bare;
 Then back returning, sought the Argive shore,
 And the bright spoil to proud Eurystheus bore.”

These, too, were the golden apples by means of which Hippomenes won the Arcadian Atalanta; who halted in the race to pick them up, when he artfully dropped them at three several times, in the hope of her so doing; he having received them for that purpose from the goddess Venus.

And probably this may be the golden apple, the bestowal of which first gave origin to the Grecian war.

The Orange-tree is mentioned both by Cowley and Rapin; but the poems being originally written in Latin, and the translations very poor, they will not admit of quotation. It has been celebrated by poets ancient and modern, and well has it deserved its fame, not only for its fine fruit, but also for its handsome leaves, exquisite blossoms, and delicious perfume.

Mr. Moore gives a pleasant picture of the Orange-tree, in his *Paradise and the Peri*.

“ Just then beneath some orange-trees,
Whose fruit and blossoms in the breeze
Were wantoning together, free,
Like age at play with infancy——.”

The orange-tree is one of the very few which at once delight us with the promise of spring, and the ripe luxuriance of summer. The poet tells us in his notes, that from the Orange-trees of Kauzeroon the bees cull a celebrated honey.

—————“ In short
All the sweet cups to which the bees resort,
With plots of grass, and perfumed walks between,
Of citron, honeysuckle, and jessamine,
With orange whose warm leaves so finely suit,
And look as if they'd shade a golden fruit.”

The Orange upon its bough looks, indeed, like sunshine playing in the shade ; its large green leaves have a happy effect in softening its brilliancy, and nothing can better harmonize than this fine fruit with its foliage. The poets frequently speak of the leaves as of a shade to the orange:—

“ He hangs in shade the Orange bright,
Like golden lambs in a green night.”

ANDREW MARVELL.

“ Through the green shade the golden orange glows.”

ARMSTRONG.

—————“ Thus was this place
A happy rural seat of various view ;
Groves whose rich trees wept odorous gums and balm ;
Others whose fruit, burnished with golden rind,
Hung amiable, Hesperian fables true,
If true, here only, and of delicious taste.”

PARADISE LOST.

Cowper places the Orange in his green-house:—

—————“ The golden boast
Of Portugal and western India there,
The ruddier orange, and the paler lime,
Peep through their polished foliage at the storm,
And seem to smile at what they need not fear.”

COWPER'S TASK.

“ The garden of Proserpina this hight,
 And in the midst thereof a silver seat
 With a thick arbour goodly overdight,
 In which she often used from open heat
 Herself to shroud, and pleasures to entreat
 Next thereunto did grow a goodly tree,
 With branches broad dispread, and body great,
 Clothed with leaves that none the wood mote see,
 And loden all with fruit, as thick as thick might be.

“ The fruit were golden apples glistening bright,
 That goodly was their glory to behold,
 On earth like never grew, ne living wight
 Like ever saw ; but they from hence were sold
 For those which Hercules with conquest bold
 Got from great Atlas’ daughters ; hence began,
 And planted there, did bring forth fruit of gold,
 And those with which th’ Eubæan young man wan
 Swift Atalanta, when through craft he her outran.

“ Here also sprang that goodly golden fruit,
 With which Acontius got his lover true,
 Whom he had long time sought with fruitless suit ;
 Here eke that famous golden apple grew,
 The which among the gods false Ate threw,
 For which th’ Idæan ladies disagreed,
 Till partial Paris dempt it Venus’ due,
 And had (of her) fair Helen for his meed,
 That many noble Greeks and Trojans made to bleed.”

SPENCER’S FAIRY QUEEN.

“ Her lover’s genius formed
 A glittering fane, where rare and alien plants
 Might safely flourish : where the citron sweet
 And fragrant orange, rich in fruit and flowers,
 Might hang their silver stars, their golden globes,
 On the same odorous stem——.”

MASON’S ENGLISH GARDEN.

Mrs. C. Smith speaks of the Orange-tree in her lines addressed to

the humming-bird; a beautiful little creature, which, when stript of its plumage, is not bigger than a bee; and, like the bee, it delights in hovering over the sweetest flowers, and sipping their juice, without doing them the least injury by its visit. Mr. Lambert, in his Travels in Canada, says, "that they may be seen there in great numbers, and that their plumage is as beautiful as that of the peacock." It is frequently called the bee-bird:—

"There, lovely bee-bird! may'st thou rove
Through spicy vale, and citron grove,
And woo and win thy fluttering love
With plume so bright;
There rapid fly, more heard than seen,
Mid orange-boughs of polished green,
With glowing fruit, and flowers between
Of purest white."

Captain Stedman, speaking of Paramaribo, says that its streets, which are perfectly straight, are lined with Orange, shaddock, tamarind, and lemon trees, which appear in everlasting bloom, while at the same time their branches are weighed down with the richest clusters of odoriferous fruit. He was in the habit of purchasing forty Oranges for sixpence: yet plentiful as they were, the Orange is not a native of the country, but was originally imported there from Spain and Portugal. These trees are extremely beautiful, and adorned with their fragrant blossoms throughout the year. "As for the fine fragrance that is diffused through all this colony," says the Captain, "by the continued groves of Orange-blossoms, and odoriferous fruits that it produces, it can be more easily conceived than described." In Surinam, the parlour floors are always scoured with sour oranges cut through the middle, which gives the house an agreeable fragrance: the negro girls, taking one half in each hand, keep singing aloud while they rub the boards.

Speaking of the negro, Captain Stedman says—"his teeth are constantly kept as white as ivory; for this purpose he uses nothing but a sprig of Orange-tree, bitten at one end until the fibres resemble a small brush; and no negro, male or female, is to be seen without this little instrument, which has, besides, the virtue of sweetening the breath."

Thunberg speaks of a curious Lilliputian kind of Orange, growing in Japan: "A very small species of Orange (*Citrus Japonica*) is frequently cultivated in the houses, in pots. This shrub hardly exceeds six inches in height, and its fruit, which is sweet and palatable, like China Oranges, is not larger than an ordinary cherry.

In visiting the forcing nursery establishments around London during the spring of 1845 and the present one, I endeavoured to ascertain the best mode of culture. The following are essential. There must be a very free drainage of broken pot over which some pieces of rough turfy soil be laid. The compost to be turfy loam, well enriched with one year old cow-dung, the two being mixed up for six months before using. At the time of potting the soil must not be sifted, but chopped, and a sprinkling of pieces of charcoal added. During the growing and blooming period, the pots are plunged in tan, or stable dung, having a covering of tan at the surface to prevent the unsightly appearance of the dung. In one case a neat covering of green moss had been supplied, which looked well. Rain-water of a tepid temperature, and manure water too, is used; but only just sufficient to keep the soil moist, not wet. The plants are frequently syringed over head, morning and evening, in dry weather, or when the house is of moderate heat. In order to prevent worms entering the hole at the bottom of the pot, the pot in which the plant is growing is cased in another pot which is a size less, and on its being placed within it, the bottom of the plant pot does not descend within four or six inches of the case pot; this allows the water to drain away properly, admits the warmth to rise, and entirely precludes the worms entering the plant pot. After the Orange-tree has ceased blooming a season of rest is allowed, and about a month before the time of exciting them to grow again, they are re-potted, carefully putting away the exterior soil, to admit a due proportion of new compost. It is necessary at the season of rest, that the plants are not supplied with bottom heat, but kept in a greenhouse, or similar habitation.

ARTICLE XI.

ON THE CULTURE OF CHOROZEMAS.

BY THE FOREMAN OF A LONDON NURSERY.

By the request of one of the correspondents in the CABINET, I forward the particulars of my mode of treatment with the Choroze-mas. This genus is generally considered difficult to cultivate, but I have grown them with considerable success by pursuing the following method:—The soil I use is a sandy, fibrous peat, well broken with the spade, but not sifted. The best time for potting is March or April; care must be taken not to over-pot the plants, or injure the roots while potting, and the soil must be made perfectly firm and compact about the roots, and the pots well drained; they must then be placed in the greenhouse in an open, airy situation, and not crowded among other plants. It is also preferable to keep them in the greenhouse during summer, but in hot weather they must be shaded for a few hours each day during sunshine. They require a reasonable supply of water, that is, they must not be sodden nor left to get too dry. They may be propagated in the following manner: cuttings should be taken off while the wood is young, and carefully prepared; take off the bottom leaves with a sharp knife, and make a clear cut just through the joint; the cutting pot should be drained, and then filled to within two inches of the top with the soil before spoken of. On the top of this put a layer of white sand, into which plant the cuttings, making a little hole for their reception with a small stick. When the pot is full, give them a steady watering with a fine rose, after which place a clean glass over them. In this state they may be removed to the propagating-house, where the temperature should be about 65°, and plunged in a little saw-dust or sand. They should be shaded from the sun, which can easily be done by placing a sheet of coarse paper over the glasses. As soon as the cuttings are rooted, which may be known by their beginning to grow, they must be potted off, taking care not to injure the roots, and they must be covered again for a week or fortnight, till they make fresh roots, after which they must be gradually inured to the greenhouse, and treated as old plants.

ARTICLE XII.

THE METROPOLITAN FLORAL EXHIBITIONS.

THE HORTICULTURAL SOCIETY, *May 9.*

WE resume our reports of these exhibitions for another season, commencing with the Horticultural Society's show of May 9, which was an assemblage of almost hitherto unequalled splendour and beauty; a very gratifying feature was, that scarcely one plant throughout the immense number could have been found deserving the name of an ill grown one.

We will proceed at once to describe briefly the principal prize collections in the stove and greenhouse plants, and then enumerate the florists' flowers.

1.—STOVE AND GREENHOUSE PLANTS.

In collections of 40.

Here the competitors were Mr. Robertson, gardener to Mrs. Lawrence, of Ealing Park, and Mr. Barnes, gardener to G. W. Norman, Esq., of Bromley. The first prize, value 20*l.*, on this occasion was awarded to Mr. Robertson. The collection was composed of large and altogether fine specimens of cultivation. At the back stood a beautiful plant of the purple *Azalea phœnicea*, and supporting it were *Epacris grandiflora*, 3 feet in height, and nearly as much in diameter; *Eriostemon myoporoides*, about 5 feet in height and 4 feet in diameter; two immense bushes of *Chorozema varium*; a *Hardenbergia macrophylla*, closely covering an upright cylindrical trellis, about 6 feet in height; two fine specimens of *Pimelea spectabilis*; immense bushes of *P. decussata*, and *P. hypericifolia*, the latter covered with little tufts of white blossoms; a *Gnidia piniifolia*, about 2 ft. in height, and 3 ft. in diameter, perhaps the finest plant of the kind ever exhibited. A tall *Eriostemon cuspidatum*, *Zichya inophylla floribunda*, trained over a circular trellis, well bloomed plants of *Leschenaultia Baxteri* and *L. formosa*, a small but neat *Hovea Celsi*, in fine bloom; and the curious yellow-flowered *Anthocercis littorea*, with a splendid *Boronia pinnata*, covered with multitudes of pink star-shaped flowers. In front were *Acrophyllum venosum*, a pretty little plant with numerous spikes of white flowers; *Chorozema Hendersoni*, trained over a wire trellis; *Podolobium staurophyllum*, a mass of bloom; *Gastrolobium spinosum*, a fine plant covered with multitudes of *Chorozema*-like flowers; a neat well-bloomed *Daviesia Fraseri*; and a luxuriant growing plant of the scarlet-flowered *Siphocampylus coccineus*. Of *Azaleas*, in addition to the centre one, the collection contained several finely-grown specimens. Of the genus *Erica*, we remarked a large *intermedia*, well bloomed; two fine specimens of *Persoluta alba*, about five feet in height, literally masses of white blossom; and a good *Vestita alba*, richly ornamented with whorls of white flowers. Mr. Barnes received the second prize; the most remarkable plants in whose collection were a noble white Indian *Azalea*, and supporting it *Epacris grandiflora*, a large plant in fine health; an immense specimen, three feet in height and four in diameter, of *Phœnocomia prolifera*, and a famous *Aphelaxis vestita*. *Polygala oppositifolia*, four feet in height, and a mass of blossom; an excellent *Podolobium staurophyllum*, covered with flowers; a pretty *Pimelea Hendersoni*, two feet in height and the same in diameter; *Daviesia latifolia*, trained on a wire trellis, with the lateral branches hanging gracefully, and loaded with flowers;

and a famous plant, well bloomed, of the larger flowered *Aphelexis purpurea*. Of the genus *Erica*, we saw a fine plant of *grandinosa*, four feet in height and three in diameter; a *Hartnelli* of similar dimensions, and finely in bloom; a large and fine *Intermedia*; *Thunbergia*, three feet in height and as much across, covered with small orange flowers; and a large *Ventricosa tricolor*, not sufficiently in bloom.

In collections of 20.

Two of these were produced; the first prize was awarded to Messrs. Frazer, nurserymen, Lea Bridge, in whose collection were some very remarkable examples of first-rate cultivation. We may mention an immense bush of *Pimelia linifolia*, four feet in height, and upwards of five feet in diameter; a large *P. lanata*, and a remarkably well-grown *P. spectabilis*; along with these were *Eutaxia pungens*, a tall and fine *Daviesia latifolia*, *Erica suaveolens*, covered with whorls of lilac blossoms; a large but thinly-bloomed purple *Azalea*; *Franciscea Hopeana*, loaded with white and blue flowers; and a beautiful *Aphelexis humilis*. *Zichya villosa*, five feet in height; an admirably grown *Podolobium staurophyllum*; an excellent *Chorozema Henchmanni*, four feet in height and three feet in diameter; a splendid specimen of the yellow-blossomed *Erica campanulata*, and an immense bush of *Epacris grandiflora*. Mr. Hunt, gardener to Miss Trail, of Bromley, who obtained the second prize, showed a famous *Gompholobium polymorphum* just coming into bloom, covering beautifully a shield-formed trellis of large dimensions; a large and fine *Pimelea decussata*; *Azalea variegata*, two feet in height and three feet in width, literally a mass of flowers; *Erica Hartnelli*, four feet in height and the same in width; a very fine *E. perspicua nana*, covering the pot; *Ixora coccinea*, having 14 heads of bloom; a fine *Azalea laterita*, measuring four feet in height and about three feet in width; and a large *Pimelea spectabilis*, at least five feet in diameter, hardly enough advanced in bloom.

In collections of 12.

In this class there were six collections exhibited; that contributed by Mr. Green, gardener to Sir E. Antrobus, Bart., was placed first; it contained a very fine large *Azalea Gledstanesii*, *Hovea Celsi* in lovely condition, a splendidly grown *Aphelexis humilis* in fine bloom, a pretty *Boronia serrulata*, and *Epiphyllum rubrum cæruleum*, the latter quite a mass of flowers. The next group in point of merit was produced by Mr. Ayres, gardener to J. Cook, Esq., of Brooklands, Blackheath. In this collection we remarked a famous *Leschenaultia formosa*, *Erica Hartnelli* in fine condition, the sweet *Stephanotis floribunda*, a fine plant of the large flowered variety of *Aphelexis spectabilis*, and a most beautiful dwarf compact *Azalea*, composed of three varieties—*Lateritia*, *Gledstanesii*, and *Variegata*—inarched in one stock, the various coloured flowers with which it was studded contrasting finely with one another. Mr. Bruce, gardener to B. Miller, Esq., of Colliers Wood, Lower Tooting, received a third prize. We remarked beautiful plants of the red and blue flowered *Leschenaultias*, a good *Chorozema varium*, *Stephanotis floribunda*, in lovely condition; a famous *Erica propendens*, covered with little pink bells; a fine plant of *Chorozema varium*; and a splendid plant of *Adenandria speciosa*, forming a complete ball of flowers, nearly three feet in diameter.—Mr. Slowe, gardener to W. R. Baker, Esq., of Bayfordbury, also received a third-class prize for a collection, containing some fine plants; and collections were also shown by Mr. Epps, of Maidstone, and Mr. Pamplin, of Walthamstow, to both of whom prizes were given.

In collections of 6.

There were no less than eleven collections exhibited in this class, and all of them highly creditable to the contributors. The group to which the first prize was awarded was from the garden of W. Block, Esq., Muswell-hill; it contained a good *Aphelexis humilis*, an *Ixora coccinea*, a large *Tropæolum tricolor*, a *Genista*, *Boronia serrulata*, and a good *Chorozema varium*. Mr. Catleugh, of Chelsea, obtained a similar prize for a well-grown *Lautana mutabilis*; *Euphor-*

bia splendens, in fine condition; a capital *Statice arbores*; a small but good *Pimelea spectabilis*; a pretty *Chorozeema varium*, and a well-grown *Gardenia radicans*. An equal prize was also given to Mr. Carson, gardener to W. F. G. Farmer, Esq., of Nonsuch Park, Cheam, who had a large *Epacris grandiflora*; *Hardenbergia monophylla*; a large *Pimelea decussata*; a standard *Azalea Gledstanesii*; a good *Polygala oppositifolia*; and a pretty *Tropæolum tricolor*. In addition to these, several other prizes were awarded.

ORCHIDACEOUS PLANTS.

The collections of these, although numerous, and containing very many good specimens, presented nothing very brilliant, compared with what we have seen before. The first prizes were awarded as under:—

In collections of 20.

To Mr. Robertson, gardener to Mrs. Lawrence, of Ealing Park. In this group we remarked *Saccolabium guttatum*, with nine pendent racemes of purple blossoms; a large *Dendrobium cupreum*, with buff blossoms, having a dark spot in the centre; *D. macrophyllum*, producing one strong flower spike; the gracefully drooping *Oncidium divaricatum*; and a large and fine *Dendrobium fimbriatum*; together with the curious brown-streaked *Vanda cristata*, and a good plant of the rare *Barkeria spectabilis*; also a tall *Oncidium luridum*, with six fine spikes of dingy flowers; a splendid *Dendrobium densiflorum*, having eleven large drooping clusters of yellow blossoms; *Oncidium ampliatum*, with three spikes of yellow flowers; the pretty *Saccolabium præmorsum*, and the handsome *Aerides affine*, *Dendrobium secundum*, and two plants of *D. aggregatum*.

In collections of 12.

That which gained the first was from the garden of C. B. Warner, Esq., of Hoddesdon. It contained a small specimen of the beautiful *Dendrobium nobile*, *Epidendrum crassifolium*, *Camarotis purpurea*, a fine *Calanthe veratrifolia*, with six spikes of snow-white flowers; *Oncidium flexuosum*, in creditable condition; *O. sphacelatum*, with five flower-spikes; *Maxillaria tenuifolia*, with chocolate flowers; and a small pretty *Dendrobium moniliforme*.

In collections of 6.

The first prize was given to Mr. Eyles, gardener to Sir George Larpent, Roehampton. We remarked *Vanda Roxburghii cærulea*, with spotted-green petals and light blue lip; a good *Oncidium luridum*; the singular *Coryanthes macrantha*, with large chocolate-spotted blossoms; and a capital *Oncidium altissimum*.

In single Specimens.

The most splendid plant at the exhibition was perhaps the *Cyrtopodium punctatum*, from Mr. Scott, gardener to Sir G. Staunton. It could hardly have been less than seven feet in height and quite as much in diameter; the large spreading palm-like branches were completely surrounded with innumerable blossoms, presenting an object of beauty and luxuriance equalled only by specimens in its native land. The largest prize (7*l.*) ever given by the Society for one plant was awarded to it. From Mr. Cameron, of the Birmingham Botanic Garden, was a specimen of the green-veined *Chlorea virescens*, one of those beautiful terrestrial Orchids inhabiting the subalpine pastures of the Cordilleras of Chili.

AZALEAS.

The collections of these were numerous, the plants were generally large specimens, and being well in bloom made an excellent display.

In collections of 12.

Mr. Green, gardener to Sir E. Antrobus, Bart., was first. This group consisted of *Azalea* exquisita, a very distinct variety, with delicate pink blossoms edged with white; *Jenkinsoni*, lilac; speciosissima, very fine; *eximia*, bright red; a fine plant of *variegata*; the yellow-flowered *sinensis*; Smith's *coccinea*, six feet in height, and a mass of blossom; triumphans; a fine plant of *lateritia*, thickly clad with blossoms at the top; a rather thin plant of *alba multiflora*; *Georgiana*, lilac; and *Conqueror*, rosy pink. Mr. Falconer, gardener to A. Palmer, Esq., of Cheam, had the second prize; we saw fine plants of *Rawsoni*, *Palmeriana*, *lateritia variegata*, a large *Gledstanesii*; *Theresa*, small bright rose; *Agnesii*, fine crimson; *Emmeline*, and a tall plant of *Danielsiana*. A third prize was given to Mr. Robert-on, who had fine specimens of *coronata*, *splendens*; *optima*, a bright red variety; *Rawsoni*, bluish purple; *variegata*, *rosea superba*; speciosissima, very fine rosy pink; and a good *Gledstanesii*.

In collections of 6.

Mr. Barnes had the first prize with *splendens*, two feet in height and four feet in width; a fine plant of Smith's *coccinea*; a capital *lateritia*; *sinensis*; speciosissima, and *purpurea superba*.

CAPE HEATHS.

The collections of these were numerous and fine, but there was a want of diversity among them, the various groups containing nearly the same species.

In collections of 20.

The first prize to amateur growers was awarded Mr. Hunt, gardener to Miss Trail; we remarked a pretty *odore rosæ*; the little pink-blossomed *ovata*; the lilac-flowered *suaveolens*; *Sprengelii*, a variety something in the way of *Hartnelli*; a large plant of one of the numerous varieties of *ampullacea*; a beautiful little *depressa*; *Hartnelli*, four feet in height and about the same in diameter; and an equally large specimen of *gemmifera*. In the same group was also a pretty little plant of *elegans*; *Westphalingia*, ornamented with numerous bright rosy tubes, and a lovely little *aristata major*. Amongst nurserymen, Messrs. Fairbairn, of Clapham, obtained the first prize; we remarked *dilecta*, a sort something in the way of *mundula*; the pretty little yellow-blossomed *denticulata moschata*; the beautiful *vestita rosea*; *Wilsoni*, a good and scarce variety; the bright rosy-blossomed *metulæflora* and *Beaumontia*, the latter densely covered with small lilac bell-shaped flowers.

In collections of 12.

Mr. May, of Bromley, obtained the first prize in the amateurs' class, and Messrs. Frazer, of Lea-bridge, in the nurserymen's. In both these collections were some remarkably good plants. Mr. May showed *Hibbertiana*, in fine condition; the larger variety of *aristata major*; the pretty white-flowered *mirabilis*; *fastigiata bractescens*, in capital order, and a pretty *depressa*. Messrs. Fraser had fine plants of *mundula*, *intermedia*, and *Hartnelli*. Collections of six species were numerous, and several fine plants were shown as single specimens.

CACTI.

Collections of these, in fine condition, were sent by Mr. Green and by Mr. Robertson. Mr. Green had the first prize; his plants were *Epiphyllum speciosum*, the larger and smaller varieties of *E. Ackermanni*, *E. Russellianum*, a gracefully drooping variety with small purple flowers; the larger *E. speciosum*, *E. Jenkinsoni*, and a splendid *Cereus speciosissimus*. The most remarkable plants in Mr. Robertson's collection were *Cereus speciosissimus*, *Epiphyllum Lawrenceanum*, *E. Ackermanni*, and two of *E. splendens*.

As Single Specimens of superior cultivation a considerable number of plants were exhibited. Mr. Green sent a very large double red Azalea, at least 6 feet in height, and nearly the same in diameter, a blaze of red blossoms. From Messrs. Frazer was *Boronia serrulata*, displaying first-rate management, and the same may be said of a noble *Helichrysum humile*, from Mr. Bruce, of Tooting. A large *Epacris grandiflora* was produced from the nursery of Mr. Pamplin; a famous *Pimelea spectabilis* was sent by Mr. Clarke; and a no less remarkable plant of *Crowea saligna*, in the most robust health, from Mr. W. P. Ayres. To each of these plants prizes were awarded.

NEW OR RARE PLANTS.

These were neither numerous nor very remarkable. Prizes, however, were given to Messrs. Veitch and Son, of Exeter, for *Eranthemum variable*, a plant with silvery-veined leaves and lilac flowers; *Rhodostemma gardenioides*, with sweet scented, but rather dingy looking flowers; and *Mussanda frondosa*, a long lost, but recently re-introduced plant, with yellow tubular blossoms, and singular large white bracts. Mr. Robertson received a prize for *Hydrolea spinosa*, a pretty little bush, with bright blue flowers. Mr. Cameron had a prize for *Anthericum cæruleum*, a blue flowered, well-known plant. Besides these were shown from Mr. Cameron, a new species of *Goodia*, with yellow lotus-like flowers. From Mr. Dod, gardener to Sir George Warrender, Bart., *Dysophyllum stellatum*, with small starry purple flowers. From Mr. E. Beck, was the little white flowered *Achimenes argyrostignia*. From Mr. Harrison, nurseryman, Richmond, was *Chirita sinensis*. And from Messrs. Fairbairn, of Clapham, a *Polygalia* named *Dalmaisia*.

II. FLORISTS FLOWERS.

PELARGONIUMS.

In collections of 12 new and first-rate varieties.

In the amateurs' class, Mr. Cock, of Chiswick, was the only competitor, and received the first-rate prize for the following varieties:—Duke of Cornwall, Hector, Atalanta, Rosetta, Mustee, Emma, Milo, Sultana, Duchess of Leinster, Eliza Sauvage, Orion, and Isabella. In the nurserymen's class, the first prize was given to Mr. E. Beck, florist, Isleworth, for Hebe's Lip, Susanna, Master Walter, Mustee, Isabel, Lurida, Hector, Resplendent, Rosy Circle, Desdemona, Aurora, and Arabella.—The second prize was voted to Mr. Catleugh, of Chelsea, for Milo, Magog, Emma, Orion, Free Briton, Duchess of Sutherland, Sultana, Mary, Rosetta, Luna, Duke of Cornwall, and Rosetta superba; and the third prize was obtained by Mr. Gaines, of Battersea, whose flowers were Xarifa, Milo, Nosegay, Athenian, Ackbar, Don Juan, Lady Smith, Amelia, Cossack, Prince Alfred, Redworth, and Lady Caroline Douglas.

In collections of 12 distinct varieties.

Mr. Cock here also received a first prize, for Orion, Emma, Cicero, Eliza Sauvage, Sarah, Queen Philippa, Sir R. Peel, Sultana, Erectum, Cyrus Superb,

and Princess Alice. Mr. Staines received a third prize for Rosalie, Adonis, Sunbeam, Ackbar, Erectum, Clio, Sylph, Lady Ebrington, Lady Sale, Duke of Cornwall, Marchioness of Lothian, and Duke of Wellington. In the nurserymen's class, the first prize was awarded to Mr. Catleugh, for Madonna, Sultana, Juliet, Hebe, Queen of Beauties, Charles the Tenth, Coronation, Madeline, Luna, Symmetry, Duke of Cornwall, and Rosetta Superb. Mr. Gaines received the second prize for Coronation Superb, Sultana, Augusta, Queen of Bourbons, Pirate, Emma, Rising Sun, Saxon King. Egbert, Albina, Vanguard, and Lady Prudhoe; and a prize was also awarded to Mr. Beck, for Roxy Circle, Luna, Sultana, Hero, Zanzummin, Arabella, Matilda, Sir R. Peel, Margaret, Mustee, Lord Chancellor, and Duke of Cornwall.

In collections of 6 varieties.

The amateurs' prize, was awarded to Mr. J. Parker, gardener to — Oughton, Esq., of Rothampton, for Coronation, Erectum, Duke of Cornwall, Mabel, Unit, and Master Humphrey. In the nurserymen's class, Mr. Gaines received a prize for Cyrus, Rising Sun, Erectum, Albina, Lady Sale, and Coronation.

ROSES.

The Roses in pots were not particularly fine.

Among amateurs, Mr. Slowe, gardener to W. R. Baker, Esq., was the only exhibitor. In this group we observed, of *Tea-scented* varieties, there were Devonensis, Safrona, yellow; Bougère, rose; Triomphe de Luxembourg, large buff; and Caroline. Of *Bourbons*—Bouquet de Flore, deep carmine. Of *Chinas*—Napoleon, large blush; Mrs. Bosanquet, pale flesh; Triomphante, crimson; and Paris. In the nurserymen's class, Messrs. Paul and Sons, of Cheshunt, was first. Among these were, of *Hybrid Perpetuals*—Clementine Duval, bright rose; Louis Bonaparte, rosy crimson; Lane, large deep rose; Aubernon, light crimson; Madame Laffay, rosy crimson; Mrs. Elliot, lilac; Pauline Plantier; Antinous, purplish crimson; and Great Western. *Tea*—Nina, Clara, Sylvain, and Taglioni. *Bourb.*—Souvenir de la Malmaison, pale flesh; and Madame Nerard, delicate bluish. Messrs. Lane and Son, of Great Berkhamstead, was second; we observed *Alba*—Blanchefleur, white, with blush centre. *Hyb. Perp.*—Comte de Paris, pale blush; Madame Emma Dampierre, purplish red; Marquis of Ailsa, crimson; William Jesse, crimson tinged with lilac; Grand Capitaine, velvety, fiery crimson; Duc de Chartres, shaded carmine. *Tea*—Adam, glossy blush, with salmon centre; Barbot, reddish rose, with yellow centre; Hamon, blush, shaded with crimson; Mini, rich cream; Moiré, pale yellow; Nisida, shaded buff; Triomphe de la Guillotiere, fawn; and Triomphe de Luxembourg, buff and rose. Mr. Francis, of Hertford, was third; among others, we saw *Tea*—Melville, Goubault, and Mansais. *Hyb. Perp.*—Fulgore, Duchess of Sutherland, and Rivers. *China*—Clara Sylvain, Comte de Paris, and Gardenia. Mr. Beck also received a prize; we remarked *Bourb.*—Queen, beautiful fawn-coloured. *Hyb. Perp.*—La Reine, fine glossy rose; Princesse Helene, deep purplish red. *Tea*—Goubault, bright rose; Hardy, pale flesh, rosy centre; Belle Allemande. *China*—Victoire d'Aumay, Henry V., and Fabvier. *Hyb. China*—General Allard, a rosy red, distinct and fine sort. A small group of Roses in pots was likewise produced from the garden of A. Rowland, Esq., of Lewisham. In this, we remarked Harrisonii, Rubens, Persian yellow, Rival de Posthume, and Marshal Villars. Of single specimens, only one plant was sent, Elise Sauvage, from Mr. Slowe.

CALCEOLARIAS.

The collections of these were limited in number, and two of them were disqualified in consequence of non-conformity with the Society's rules. Mr. Gaines, in the nurserymen's class, showed some remark

ably well managed, compact plants, and deservedly received the first prize. His kinds were, *Miss Houston*, compacta (Gaines), *Mab* (Kinghorn), *Mirabilis* (Gaines), *Alpha* (Gaines), and *Enchantress* (Gaines). In the amateurs' class, Mr. G. Stanley obtained a prize for some rather long-legged specimens of *King John*, *Mammoth*, *Monarch*, *Prince Alfred*, *Queen of the Fairies*, and *British Queen*.

FUCHSIAS.

The Society only offer prizes this season for single specimens, for which all parties are admitted to equal competition. Messrs. Lane and Son, obtained the first prize (value 25s.) for a compact specimen of their seedling, named *Mrs. Lane*, a flower remarkable for the richness of its corolla, and of excellent habit.* Mr. Kendal, florist, Stoke Newington, received the second prize.

SEEDLING FLORIST'S FLOWERS.

But a small number of these were exhibited, and amongst *PELARGONIUMS* none of the present season were considered by the judges deserving a prize. Mr. Hoyle, of Guernsey, however, showed some very excellent flowers, which if no great improvement upon others already out, certainly would lose nothing by comparison with them. One of his flowers struck us as likely to be a very good one; it was named *Governor-General*, possessing a remarkably smooth and even surface, very round, and the colours clear and well defined. Several prizes were awarded for two year old seedlings. Mr. Hoyle received a prize for *Mount Etna*, a flower of extraordinary brilliancy and beauty of colour, being a rich bright scarlet crimson, with a distinct dark blotch in the upper petals. Mr. E. Beck received four prizes, 1st. for *Competitor*, a smooth and good shaped flower, the top petals are covered with an even tint of velvety-maroon, leaving a narrow rim of rosy crimson on the edge. The centre of the flower is light, with lower petals of a bright rose, having a deeper rose-coloured spot in each. 2nd. *Bacchus*, a very round and fine flower; the upper petals are of a deep maroon, with a narrow border of rose, centre white, rose-coloured under petals, having dark veins and blotches in each. 3rd. *Hebe's Lip*, a flower with velvety top petals,

* Messrs. Lane also showed a kind named *Curiosa*, which if not the same, is very similar to *Cordifolia*.

surrounded with crimson; white centre, with bright rosy pink under petals; and 4th. Patrician, a remarkably smooth and even textured flower, having rosy pink lower petals, with dark top petals, changing to rosy crimson on the edge.

CALCEOLARIAS.

Three prizes were awarded by the judges for these, namely, to Kinghorn's Masterpiece, Gaines's Lord Hardinge, and Green's La Polka, each of them being distinct and desirable varieties.

Some Fuchsias and Cinerarias were shown, but none possessing novelty or striking peculiarities appeared amongst them.

ARTICLE XIII.

ON THE CULTURE OF ACHIMENES.

IF our North Country Correspondent who requests information on the cultivation of the Achimenes, will pursue the following directions, he will be amply compensated with *fine* specimens.

ACHIMENES COCCINEA.—In the beginning of February take the pots that contain the roots of the plants that have flowered the season previous, and carefully take away the surface soil till the small tubers appear. Then fill the pots up with a compost of peat soil, light loam, and leaf soil, and give the whole a gentle watering. Then place the pots in a fruiting pine-stove or hot-bed frame, the temperature of which is kept from 70° to 85° of heat. Give water sparingly for about ten days, but afterwards more freely, so as to effectually moisten the whole of the soil to the bottom of the pots, which will have become very dry from having been kept during the winter without water.

When the shoots have attained the height of about three inches, turn the bulbs out of their pots, and carefully break them till you can divide the young shoots. Then select the strongest, and retain all the roots attached to them, and plant singly into sixty-sized pots, in the same compost as recommended for earthing up the pots, with the addition of one-fifth fine clean sand. Grow the plants in a moist heat and in a slight shade, occasionally sprinkling them with a sy-

ringe or the fine rose of a watering-pan. As they advance in growth and fill their pots with roots, frequently repot them into pots a size larger till finally remove them, the strongest plants into sixteens, and the others into twenty-fours, using the same kind of compost, except for the last shifting, at which time give them pots two sizes larger, and add one-fourth of well-decomposed hotbed manure, using the other part of the compost more turfy and open. Be particular in draining the pots well at each shifting with plenty of broken pots, and to the depth of one inch at least at the last potting. Examine them at each removal, and take away any suckers that may appear about their stems, and also two or three of their lowest side branches; this tends to strengthen the main stem, and encourages them to make fine symmetrical pyramidal heads. After they are well established, and are beginning to produce flowers, place them, some in a cooler stove, and others in the greenhouse, being careful that they enjoy as much light as possible, which materially enhances the brilliancy of their scarlet flowers, and adds much to their general lustre.*

After they have done flowering, gradually withhold water, but do not cut their stems away till they have entirely died down. Keep the dormant roots in the pots, on a shelf in the greenhouse, without any water till they are again wanted to vegetate.

Achimenes Picta blooms far more profusely by the following treatment:—the tubers being preserved through winter as the others are directed to be done, must be excited quite early in January, and when the plants can be separated must be done, potting them singly. As soon as they are large enough, cut off the tops at two or three inches long, close under a joint, and strike them in sand; they readily root, pot off as soon as rooted, and treat in all respects afterwards as stated in the particulars relative to *Achimenes coccinea*.

Plants raised from the tubers grow much more into stem and foliage, but are shy of blooming, whereas those from cuttings, whilst they grow vigorously, bloom profusely. This species, too, can be kept growing through the winter, so that, where convenient, a large plant being kept for the purpose of supplying cuttings early forwards the preparation of plants early in spring. Plants raised from cuttings do not so certainly produce tubers for next year's pushing, as do those

* We have had plants so treated two feet high, and nearly the same in diameter, forming one mass of beauty and brilliancy.

grown from the tuber, so that a plant or two grown from the tuber is desirable even for the certainty of a stock.

Achimenes pedunculata and *hirsuta* also bloom more freely, when raised from cuttings, but they become more dwarf than when produced from the tuber.

Achimenes longiflora and *grandiflora* flourish admirably when treated as a *coccinea*, if fine specimens be the object; but dwarfed ones are readily obtained by having a proportionate poor compost. They will do well, and produce a pretty effect, if grown in baskets, and be suspended, as is done with many of the *Orchidæ*; the stems hang over the sides, and bloom very freely.

The *Achimenes rosea* requires in all respects the treatment given to *Achimenes coccinea*. Allowing of the tubers to push stems before separating and potting them in spring, is much more successful than first separating the tubers before pushing; this is applicable especially with *A. coccinea*, *rosea*, *grandiflora*, *pedunculata*, *hirsuta*, and *longiflora*. The entire management is very simple, and easily accomplished, and the reward a most ample display of lovely flowers.

PART II.

MISCELLANY

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ANSELLIA AFRICANA. AFRICAN ANSELLIA. (Bot. Reg. 30.) *Orchidacæ*. *Gynandria Monandria*. When Mr. Ansell was ill from the effects of the Niger Expedition at Fernando Po, he found growing on the stems of the oil palm an epiphyte with a slender jointed stem about two feet long, and long three-ribbed leaves, having a terminal panicle of numerous flowers, of a pale green ground colour, beautifully spotted with dark purple. It has bloomed in the collection of Messrs. Loddiges's, and very splendidly in the collection of the Rev. John Clowes, at Broughton. The panicle bears from 30 to 40 flowers. Each blossom is about two inches across. It is a most beautiful species, and deserves to be in every collection.

BEAUMONTIA GRANDIFLORA. GREAT-FLOWERED. (Pax. Mag. Bot.) *Apocynacæ*. *Pentandria Monogynia*. An evergreen hothouse climber, a vigorous growing plant, but now found to bloom freely when coiled round a trellis. The flower is nearly as large as *Magnolia grandiflora*, large tube, and a magnificent fine spreading limb; white, with a dark throat. It is a noble flowering plant, and having been found to bloom well, treated as above named, it will form a fine

addition to this class of plants, well suited to exhibit at the shows. - It is an old plant, and may be obtained cheap.

EUSTOMA EXALTATUM. THE TALL. (Pax. Mag. Bot.) Gentianaceæ. Pentandria Monogynia. (Synonym *Lisianthus exaltatus*.) A very suitable companion to *Lisianthus Russellianus*. It is an annual. The flowers are of a lilac-blue, with a five parted white centre, and a dark shade round the white margin.

ODONTOGLOSSUM MEMBRANACEUM. MEMBRANE SHEATHED. (Bot. Reg. 34.) Orchidaceæ. Gynandria Monandria. From Mexico. It has bloomed with Messrs. Loddiges. The flowers are white, transversely lined around the centre with bright red. Each blossom is about two inches across. The flower scape bears from two to four blossoms. Very neat.

The following are figured, but of little interest, or have been previously noticed by us:—*Cypripedium macranthum*, Bell. *Eschianthus purpurescens*. *Cirrhopteratum Thouarsii*. *Calliandra Harrisii*. In the Bot. Reg., *Primula involu-crata*, *Bouvardia flava*, *Saxifraga thysanodes*. In Pax. Mag. of Bot., *Fuchsia macranthum*, *Epidendrum verrucosum*.

NEW PLANTS NOTICED.

CHIRITI SINENSIS. The flowers are of the labiate order, produced in spikes about nine inches high, lilac, having the inside marked with bright orange, as well as the upper lip being so marked. This may now be had at most nurseries, and well deserves a place in the greenhouse.

CUPHEA MINIATA. A new species, having fine brilliant crimson flowers, with rich purple woolly tufts around the stamens and anthers, producing a pretty contrast. It is in bloom at Messrs. Rolliasons', of Tooting.

JASMINUM DIANTHIFOLIA. A new and singular looking species, with small white, but very highly fragrant flowers, also at Messrs. Rolliasons'. Very desirable for the greenhouse. At Tooting Nursery.

ACHIMNES LONGIPLORA, VARIETY. It is a dwarf variety, and the flowers are of a much deeper colour than the species, also more circular. It is a pretty addition to this lovely family. In the Tooting Nursery.

CUPHEA PLATYCENTRE. This very beautiful species produces flowers of a rich orange colour, and like the other is highly ornamental. A handsome specimen of it was exhibited at the Regent's Park show by Mr. Smith, gardener to J. Anderson, Esq., of Regent's Park, London.

TROPÆOLIUM MINUS. The flowers are double, of a beautiful orange-scarlet, and are produced in great profusion. This plant may be had cheap at the London nurseries. It is a very pretty thing for planting in beds, or on rock-work.

TETRATHECA VERTICILLATA. This very beautiful blue flowering plant merits a place in every greenhouse.

RUELLIA MACROPHYLLA. This noble species with its brilliant scarlet flowers is highly ornamental for the stove, or during summer for the greenhouse.

LONDON HORTICULTURAL SOCIETY, June 2.—Among subjects of exhibition produced on this occasion was a charming collection of hardy hybrid Azaleas, from the Earl of Carnarvon's gardens at Highclere. Some of them were the result of a cross between *A. pontica* and *A. rubescens*, and a beautiful display of various coloured flowers has been produced. This has also been the case in another group of hybrids obtained from *A. sinensis*, which had the glaucous foliage and inflorescence of that species modified by the various tints of crimson, producing a striking effect. Another new hybrid is also well worth notice, adding to the colour of the broad-leaved *Kalmia* the habit of *Rhododendron fragrans*; this had been effected by a cross between the *Azalea rubescens* and

the Highclere Rhododendron. There were other mules obtained similar to our hardy European purple Rhododendrons, but greatly improved in foliage by the use of the crimson Indian variety. A Banksian medal was awarded.—Hybrid cacti were sent by Mr. Errington, gardener to Sir P. G. Egerton, Bart., M. P.; they belonged to the pendulous division of this tribe of plants; *Cereus flagelliformis* was one of the parents; among them was a very delicate pink variety of considerable size and beauty.—Mr. Smith, of Dalston, exhibited two *Fuchsias*, one named *Eximia*, and the other *Beauty of Dalston*, a variety in the way of *Conspicua*, but larger; also a *Cactus formosissimus*.—Messrs. Veitch, of Exeter, sent a specimen of *Dilymocarpus crinitus*, a *Gloxinia*-looking plant, having snowy white flowers streaked with yellow in the tube, together with a *Dendrobium hymenophyllum*, the flowers of a dull yellow colour, and not very interesting except for novelty. For the former a certificate was awarded.—Messrs. Chandler and Sons, of Vauxhall, exhibited 12 *Pelargoniums*; a bluish-purple *Cineraria*, named *Bijou*; and two *Yams*, received from Peru.—Mr. Golledge, of Stratford, sent a collection of *Calceolarias*, including a seedling named *Forget-me-not*.—From Mr. Groom, of Clapham Rise, was a small bouquet composed of various sorts of *Anemone hortensis*, a better coloured though smaller kind than *A. coronaria*.—Mr. S. Widnall, nurseryman, Granchester, sent a fine specimen of *Fuchsia serratifolia*, nearly six feet high, and which had it not been rather damaged in travelling would have been still more interesting. It was awarded a Banksian medal.—Mr. J. Cuthill, of Camberwell, exhibited *Leianthus longifolius*, nearly allied to *Lisianthus*, and a fine sample of sound new ash-leaved *Kidney Potato*.

From the Society's gardens was *Achimenes patens*, a new and beautiful species from Mexico, it is the loveliest of the genus, the colour of the flower resembling *A. grandiflora*, but is much brighter and deeper. The specimens shown were received by post only a few weeks ago.—There was also *Campanula nobilis*, lately received from China, a hardy species producing large lilac coloured flowers.—The same collection also produced an Annual with light blue cruciform flowers, having white centres, which open in the morning, close at noon, and drop off soon after; this short duration of the flowers is more especially a matter of regret, as they are produced in abundance, and have in the morning a striking effect. It is named *Heliophila trifida*.—Associated with these were the handsome scarlet *Pitcairnia punicea*, *Cypripedium barbatum*, two species of *Oncidium*, a *Gloxinia*, the rose coloured variety of *Epidendrum macrochilum*; and though last, not least, a noble specimen of *Phalænopsis amabilis*, which had been obtained from Manilla, through Mr. Fortune; this, being most difficult to procure, will always be a scarce species.

CINERARIAS.—In a recent Number of the *CABINET* I noticed that when *Cinerarias* had done blooming, they were to have the tops dipped into tobacco-water to destroy any green fly which usually infest them, after which the plants were to be turned out of the pots into a warm sheltered border. Mine bloomed nearly all winter and spring, and about a month back I turned them out as directed; they have taken root into the fresh soil and are flourishing rapidly. In former seasons, being ignorant of this treatment, I usually lost a great part of my stock of old plants, now I perceive the great advantage of the recommended system of management, and shall take up the suckers, &c. in autumn as instructed.

A. B.

GREEN FLY.—My Rose trees have been severely attacked with it this season; they had covered the buds and ends of the shoots before I discovered the pest. I immediately had a bucket full of puddle made of loam and water to the consistence of cream, and the ends of the shoots and buds were dipped into it; the liquid soon dried over the insects, and in three or four days I exterminated the race, with the exception of a few shoots which, by some casualty, had not been perfectly dipped; and discovering that a few stragglers remained, I had them dipped again; and now, a month since I performed the operation, the trees are perfectly clean and healthy. This mode of effecting a riddance is cheap, easy

of application, and accomplishes the purpose effectually. After the liquid has remained over the shoots for several days, it may easily be washed off by a syringing or use of the water engine, water-pot, &c. This method not only kills the insects it envelopes, but they cannot find food if even they escape such destruction, for the young tips of the shoots and buds which they feed upon are rendered unfit for their voracious appetites. Strong tobacco-water being prepared and dip the shoots will also answer, but it is more costly. Sulphur and Scotch snuff, or pepper and sulphur dusted wholly over, and underside too of the foliage, buds, &c., will partially effect the desired object, but nothing I have tried equals the mode I recently adopted.

JUVENIS.

TO DESTROY THE SCALE INSECT.—I have a few plants of the Oleandar and Camellias which for the last two seasons have been a good deal affected with the scale insect; it struck me to try and cover over the parts attacked with a solution of starch, I did so, and in three days gave a repetition of the application; these attentions wholly answered the end contemplated, the plants are clean and healthy. I applied the starch by means of the syringe, it hurts no part of the plant, but appears in all respects beneficial.

SENEX.

SOAKING SEEDS TO HASTEN GERMINATION.—Seeds that are difficult to vegetate may be hastened two or more weeks by steeping them in water of about 80 degrees of temperature, and placing the vessel where the temperature can be so maintained. I keep the seed thus immersed for six or seven hours, then remove the vessel, strain the water from it, cover it over with a cloth, and remove it where it may be about 60 degrees of temperature, turning the seeds once or twice. As soon as the seeds appear to be bursting then take and sow them. I have adopted this method with many of the seeds I have received from the Cape, West Indies, and other remote places, and with much advantage.

CLERICUS.

HYDRANGEA JAPONICA.—In the notices on new plants in last year's CABINET, I observed the above plant recommended. I then procured a strong one, and it is now in profuse bloom in my greenhouse, having 24 large heads of flowers. The flowers in the centre of each head are of a pretty lavender-blue, and the barren outer portion of them a pure white, which produces a very pretty and striking contrast. It is a beautiful and noble looking object, and deserves a place wherever it can be grown. It is cheap, easy of culture, and readily increased.

FLORA.

ON SAVING SEEDS OF TEN-WEEK AND OTHER STOCKS.—I resided three years in Germany in one of the largest floral establishments, and where the best mode of obtaining double stocks was attempted I ever saw. We had many thousands of pots of the various kinds, and at the first potting had them in small ones, so kept till they showed a flower; and on ascertaining that the single ones had only four petals all such were destroyed, when it was discovered that they had five petals such were repotted into larger ones, and from such only were seed saved. The plants being removed to a distant garden, so that they might be kept free from impregnation with others; each class too of Stocks were kept remote, so that an intermixture of colours was prevented thereby.

RANUNCULUS BEO.—The season is at hand when the bloom is over, take care not to allow the bed to be rained upon after the entire bloom is over. If the roots are not so protected, and heavy rain descends, they will be likely soon to vegetate afresh, and the least which would materially damage the next year's bloom. The roots must be protected by a canvas or other covering, and as soon as the foliage becomes yellow let the roots be carefully taken up and dried.

A PRACTICAL FLORIST.

SLUGS.—Although the past season has been so very dry, yet early I suffered enormously in my garden from the devastation of slugs. I was told if I scattered over my flower, seed-beds, &c., a number of the leaves of the Elder-tree, it would effectually protect my plants. I did so, both in my flower-beds and seed-beds in my kitchen-garden, and the result has been fully satisfactory.

AN AMATEUR FLORIST.

PANSIES.—The best situation for a bed of Pansies is a spot where the morning sun shines till about 10 o'clock, or the afternoon sun after 3. They require a light rich soil, and a cool moist (not wet) situation. In such situations, with the ordinary degree of cultural attention, and by keeping a supply of young and vigorous plants, Pansies may be had in perfection.

ON PLACING GREENHOUSE PLANTS IN THE OPEN AIR DURING SUMMER.—When the pots are exposed to the heat of the sun and drying winds, the fibrous roots which are in quantity about the roots are much injured by it, although the interior of the ball of earth be in a moist condition. The result of the pots being so exposed during summer is soon apparent by the edges of the leaves turning brown, or many of the leaves becoming wholly so. The plan I have adopted for four years has been the following,—the plants have grown freely and been of a fine healthy green, blooming profusely. I made a bed of sifted gravel six inches deep, choosing the gravel that was about the size of horse-beans. This admitted the wet to draw away, at the substratum I had a few inches of coal ashes to prevent worms coming through. The surface being levelled, I placed the pots and filled up the spaces between with moss nearly to the rims of the pots. This method kept them cool but not wet. If this be inserted in the July Number of the *CABINET*, it may be of service to some of those persons who turn out plants during summer.

CLERICUS.

ON CALCEOLARIAS, &c.—I am an ardent admirer of the Calceolaria, but having no conveniences for keeping my plants in winter I almost always lose them. I wish to raise a few seedlings this year, and I want to know if I should have any chance of keeping the plants in a common frame, banking up the sides with earth, and covering against frost; and whether it would be best to place the pots upon a raised floor of boards, leaving a space beneath for the purpose of introducing a little heat occasionally to dry up damp. I should also be much obliged if you could tell me what is the best material for covering to exclude frost. [*Asphalate, Conductor.*] An early answer will oblige.

TYRO.

P.S.—The only situation in which I can place my frame is against a south wall, which is erected so that only the upper part of it receives any sun during the winter months.

[The frame will answer well if constructed, &c., as described. Why not elevate it so it may receive more sun in winter? Excess of damp and frost are the things to be guarded against. Early in spring additional warmth will be requisite to promote the growth of the plants; this must be effected either by keeping the sashes closed longer, or artificially provided, if a good bloom is to be realized.]

ROSES FOR FORCING.—I wish you would give a list of some of the best Roses for forcing, with variety as to colour.

J. C. L.

[The following kinds composed the very splendid collections in pots exhibited at the last Horticultural Show at Chiswick on June 13th; and our correspondent will readily observe which kinds are most prominent, &c.]

In the Amateurs' Class for 12, there were two exhibitors—Mr. Terry, gardener to Lady Puller, Youngsbury, and Mr. Slowe, gardener to W. R. Baker, Esq., of Bayfordbury. Mr. Terry sent the following:—*Tou*: Napoleon, pale pink; *Nina*,

pink; *Madame Breon*, pale rose; *Cointe de Paris*, pale blush; *Cels Multiflora*, blush. *Gallica*: *Boule de Nanteuil*, shaded crimson; *Henri Barbot*, bright rose; *La Moskowa*, shaded crimson. *Bourbon*: *Paul Perras*, rose; *Queen*, blush. *Hybrid perpetual*: *Duchess of Sutherland*, pale rose. *Noisette*: *Lamarque*, white.—Among Mr. Slowe's plants were:—*Bourbon*: *Edouard Desfosses*, bright rose; *Gloire de Paris*, crimson, shaded with purple; *Armosa*, purple. *Tea*: *Safrano*, bright fawn; *Elise Sauvage*, pale yellow, orange centre; *Nina*, pink. *Hybrid perpetual*: *Fulgorie*, deep rose, tinged with purple; *Pauline Plantier*; *Princess Hélène*, deep purplish red; *Queen Victoria*. *China*: *Mrs. Bosanquet*, pale flesh.—In the Nurserymen's Class, for 18 varieties, there were four exhibitors, viz., Messrs. Lane and Sons, of Great Berkhamstead; Mr. Dobson, foreman to Mr. Beck, of Isleworth; Messrs. Paul and Son, of Cheshunt; and Mr. Francis, of Hertford.—Mr. Lane sent:—*Tea*: *Adam*, rose, very large; *Diana Vernon*; *Moire*, rose, shaded with fawn; *Le Pacte o. lemon*, with bright yellow centre; *Abriote*, rosy fawn. *Bourbon*: *Madame Nerard*, blush; *Armosa*, purple; *Célimène*; *Phœnix*, reddish purple; *Thérésita*; *Souvenir de la Malmaison*, pale flesh. *China*: *Abbé Moiland*; *Fabrier*; *Eugène Beauharnais*, bright amaranth; *Madame Bureau*, white. *Gallica*: *Boule de Nanteuil*, large, crimson purple. *Provence*: *Illustre Beauté*. *Hybrid China*: *Comtesse de Lacépède*, silvery pale blush.—In Messrs. Paul's group were—*Tea*: *Roussel*; *Pauline Plantier*; *Julie Mansais*, white with lemon centre. *Hybrid China*: *Madame Plantier*, white; *Dombrowski*; *Velours Episcopal*; *General Kleber*; *Belle Marie*. *Hybrid perpetual*: *Madame Laffay*, rosy crimson; *Louis Bonaparte*, crimson. *Gallica*: *Reine des Français*. *Hybrid Sweetbrier*: *Madeline*, white shaded with pink. *Alba*: *Félicité Parmentier*. *Bourbon*: *Augustine Margot*; *Paul Perras*, shaded rose; and *Chénédoilé*, large crimson.—Mr. Francis produced—*Hybrid perpetual*: *La Reine*, brilliant rose; *Madame Laffay*, rosy crimson; *Madame Damene*, lilac rose; *William Jesse*, crimson and lilac. *Hybrid China*: *Madame Rameau*, bright crimson; *Reine des Hybrides*; *General Allard*, bright crimson; *Velours Episcopal*; *Blairi No. 2*; *General Weber*. *Noisette*: *Smith's Yellow*. *Gallica*: *Laura*. *Bourbon*: *Charles Duval*, bright rose; *Augustine Margot*; *Armosa*, purple. *Tea*: *Niphotos*, large white. *Moss*: *De Metz*, bright rose. As a single specimen, Mr. Slowe sent *Pactolus*, with thirty-six fine pale-yellow flowers. Mr. Dobson, a standard *Belle Maria*.]

ON MARSHAL VILLARS' (*Indica Bourboniana*) ROSE.—I have had a plant of the above Rose in my greenhouse two seasons; and though the plant appears healthy, and the flower buds strong, they never expand. It is planted in a mixture of loam and the manure of an old hot-bed. If some reader hereof will give me some information on the proper mode of treatment with this beautiful Rose, it will much oblige a Subscriber. Also any information as to what is the cause of the shoots of the *Fabriana imbricata* rose constantly withering after having flowered.—June, 1846.

ON TOBACCO WATER.—An Old Subscriber wishes to ask Mr. Harrison, who there is not the convenience of getting tobacco water from a tobacconist, to mention the solution he recommends for syringing plants in preference to fumigating them when attacked by the green fly, what quantity of tobacco would be requisite to make water at home of a proper strength to dilute in the same way, viz., what quantity of tobacco to a gallon of water, whether it should be infused in hot or cold water, and whether it is necessary for this purpose to have the very best tobacco? Mr. Harrison's notice of this question in his next Number, if time allows, will much oblige.

26th May, 1846.

[Either fumigation with tobacco, or dipping the plants in tobacco liquid, or even syringing the plants under the leaves as well as over, will answer effectually. The former is more expensive, and sometimes attended with danger; the dipping is free from it. We obtain our liquid from the tobacconist, at from 8d. to 1s. per gallon. The liquid is very strong; so that not having to prepare it, we

never tried the exact proportions. However strong, it does not injure even the tenderest shoots. An experiment or two, with a proportion, will suffice to show what it will effect on the insect. Boiling water poured upon the tobacco will produce the stronger liquid in the shortest time. It must be cool when applied to the plant.]

ON VERONICAS AND IRISES.—I should feel much obliged if some of your correspondents would give a descriptive list of twenty-four best hardy Veronicas, also a few of the best Irises, in an early Number.

June 8, 1846.

A. B. A SUBSCRIBER.

STOVE AQUATICS.—One of the greatest errors in cultivating stove aquatics, is the subjecting of the roots to occasional chills of cold water. Nothing can be more opposed to healthy growth and the attaining of a flowering state. This state of things is usually owing to the circumstance that aquatic plants are placed in the tank from which water is used for the various purposes of watering, syringing, &c., and, the deficiency being supplied by additions of cold water, the plants are, in consequence, submitted to sudden checks in their development. This ought not to be; a regular and even warmth of about 80 degrees, should be kept up, and the plants will then be enabled to grow without hindrance, and attain the degree of perfection of which they are susceptible.—*Hort. Mag.*

NEAPOLITAN VIOLETS.—Parties desirous of having new beds of Neapolitan Violets in flower next winter, may be reminded that the present is a very seasonable time for propagating this favourite flower. Let stout runners be selected and planted in rich soil. They may be expected to become good plants by August or September. A mixture of peat, sand, and loam, will ensure their success.

GAS-TARRING WALKS.—Happening to be at Margate a few days ago, I observed that the public walk upon the cliff was covered over with gas-tar. Upon inquiry, I found that this plan had answered perfectly upon the gravel-walk in the centre of the pier, which has been done some years, is quite smooth and hard, and has all the appearance of being covered with Claridge's asphalt. I consider this plan of gas-tarring walks a great hit. They are thus made dry in all weathers, the worms are destroyed, no weeds can grow, and all trouble of keeping them in order is saved. The gas-tar is applied hot to the gravel walk with a brush, and dry sand is sifted over the tar to harden it. I should say that some powdered quick-lime might be added to the sand with advantage. Three or four coats are required, which may be renewed every two or three years as needful. I laid down two barn-floors in 1839 with Claridge's asphalt, half-an-inch thick. They are now in as good a state as when first done, and have answered my wishes in every respect. They cost me one shilling per square foot, which included a heavy land-carriage for the materials. After having seen the gas-tar applied to the walks at Margate, I should now not go to the expense of laying down a barn floor with Claridge's asphalt. I should prepare the floor with a solid concrete of broken stones, and then apply three or four coats of gas-tar, with sand and quick-lime sifted over the tar. I think it would pay a farmer to prepare in this way all his homesteads. He would save all loss by rats, mice, and dampness. In using gas-tar as a covering for boards, I have found great advantage in mixing a little resin with each kettle of gas-tar. Thus mixed, it will last longer, and have more body and glossiness.—*H. Morris, in Gardeners' Chronicle.*

ON POTTING PLANTS.—“Plants that have not for some time been shifted or repotted, will require much care and attention in performing it; the soil should be shaken from the roots; if it is dry and hard it should be soaked in water, so that it may become pulverized and fall freely from them; the roots should be examined to see if they are in a good state of health, and the unhealthy ones

should be cut away, and others shortened back. This done, and having some good soil—not too wet, nor yet too dry, but moist, and some porous pots and crocks in readiness, the crocks are to be placed over the hole at the bottom of the pot carefully, so as to prevent the ingress of worms; then some coarse soil, then a little finer, next place the roots of the plant, and lay them out carefully; then put in the soil, and give the plant a gentle shake, so that the soil may get between the roots; keep the collar of the plant a little above the surface. The pot should not be filled with soil, as it would throw off the water. The soil should not be pressed hard, nor the pot knocked hard on the potting board, only just sufficient to settle the soil about the roots. If the plant requires support do it by means of a neat stick, and take the plant to its stage or its place for growth, and give it water enough to moisten the whole of the soil. When plants are watered, they should always have enough to penetrate the whole of the soil. In shifting plants from one pot to another, care should be taken not to destroy the roots; take off the surface of the ball, and carefully take out the old crocks, and pot it as before stated; work in the soil between the ball and the pot by means of a stick. Plants are more or less nourished and augmented as the water which is given to them contains a greater or smaller quantity of proper terrestrial matter in it. There is a considerable quantity of this matter contained both in rain, spring, and river water; spring and rain water contain pretty near an equal quantity of vegetable matter, river water more than either of them. Water is not the matter that composes vegetable bodies, it is only the agent by which it is conveyed to them, and by which it is introduced and distributed to their several parts; but water is not capable of performing this office to plants, unless assisted by a due quantity of heat, and this must concur, or vegetation will not succeed. It is not possible to imagine how one uniform homogeneous matter having its principles or original parts all of the same substance, constitution, magnitude, figure, and gravity, should ever constitute bodies so egregiously unlike in all those respects as vegetables of different kinds are, nay, even as the different parts of the same vegetable. One plant carries a resinous, another a milky, a third a yellow, a fourth a red, juice in its veins; one affords a fragrant, another an offensive smell; one is sweet to the taste, another bitter; one is nourishing, another poisonous; one purging, another astringent, &c. Soil in its natural state is filled with the remains of organic bodies which decompose and yield nitrogen, or become converted into carbonic acid. Nitrogen and the carbonic acid incessantly forming below the surface of the earth, enter freely into the roots, and, combining with water, and such other principles as may already have been formed there, they ascend the stem, the carbonic acid decomposing to a certain extent as it passes along, and giving, apparently, its oxygen to the spiral vessels, which convey it into other parts of the system; when it reaches the leaves it liberates its oxygen completely, and leaves its carbon to unite with the tissue of vegetation, or to enter into new combinations with water, atmospheric air, or other elements that it finds itself in contact with, whence proceed the gummy, amylaceous, resinous, oily, and other products peculiar to the vegetable kingdom. The life and growth of a plant greatly depends upon the system of potting and watering; if the soil is not kept open, the water cannot penetrate it, and then the whole mass becomes sour, and the plant will show signs of sickness: although plants require a constant supply of water, they do not like the soil stagnated; when such is the case turn out the plant and shake off the sour soil, and repot it in some of a more porous quality. In watering, it is generally necessary that the soil should be nearly dry before water is again administered. We hardly know of any fluid in all nature, except fire, whose constituent parts are so subtle and small as those of water are; this enables them to enter the finest tubes and vessels of plants, and to introduce the terrestrial matter, conveying it to all their parts, whilst each, by means of organs it is endowed with for the purpose, intercepts and appropriates to itself such particles as are suitable to its own nature, letting the rest pass on through the common ducts.—*J. Cooper.*
Read before the Long Ditton Gard. Soc.

ROELIA CILIATA.—This is a fine old greenhouse plant, which has been neglected for more novel favourites. I know of no plant that merits more attention

than this pretty shrub, which is of a dwarf habit of growth, and produces handsome campanulate brilliant blue flowers. Being a native of the Cape, it requires treatment similar to that given to Heaths, and contrasts well with the lighter colours of that beautiful family. It should be potted in a light rich soil, using two parts of rough fibrous peat, one part of leaf mould, and one of equal parts of silver sand, and well rotted cowdung: a few lumps of charcoal should be used in the potting, as no plant requires or enjoys a good drainage more than this. It flourishes in a well-ventilated pit or greenhouse; if grown in the latter, it should be near the glass. To grow dwarf handsome plants, the points of the shoots should be well stopped in the spring; it will then break freely, making numerous shoots, all of which will be crowned with flowers by July, when it will be a lovely object, and amply repay the cultivator for the pains taken.—*M. Busby, Stockwood Park. (United Gardeners' Journal.)*

ON BRITISH FERNS.—By the following simple method I grow, very successfully, the British Ferns. In winter I place them in a cool frame, or pit, and keep them dry. In February I remove them into a pit, where I give them a slight heat, and by the end of March they usually have pushed afresh; I then remove them into the greenhouse, and there they flourish through the season. At the end of September, I replace them in the cool frame or pit. I increase them by division in August, planting them in broken pots, charcoal, and turfy-peat.—*C. C.*

ON MOIST ATMOSPHERE IN PLANT HOUSES.—Various are the means employed to produce atmospheric moisture in hothouses, and many of them are, in my opinion, inefficient, and also inconvenient. I am persuaded that a sudden hot steam is at all times inimical to the well being of vegetation in general; and no wonder. Such a steam is frequently produced by dish covers, on the hotter parts of pipes or flues, or by pouring water on, or syringing very hot surfaces; and although I am a great advocate for much atmospheric moisture in general, I must protest against such plans. I am of opinion that what is wanted in general is, such a character of air as will guarantee the leaves of the plants from any tendency to desiccation, especially during the day; whilst at night there should be even a slight deposit of moisture condensed on the leaves; some few cases, such as conservatories, &c., excepted. All floors to houses should be grated, and, if convenient, a body of porous material should be placed beneath, in large lumps; perhaps masses of coke or charcoal would answer the purpose; water frequently poured thereon would yield a wholesome vapour at all times, although in a slow ratio. In addition to this, I would for most purposes have the return pipe in a cemented brick trench, with a supply of water at one end, and a ready escape, by plug or tap, at the other.—*Gardeners' Chronicle.*

ON GRAFTING THE CACTUS.—In making use of the word Cactus, I include all the divisions of the family which formerly bore the name.

STOCKS.—I have used *Cereus triangularis*, *C. speciosissima*, *Opuntia Braziliensis*, *Pereskia acullata* and *longispina*, but find none equal to *Cereus speciosissimus*; it is much harder than any of the others, and not so liable to damp off.

The best method of preparing the stocks is, in February to take some of the strongest shoots, from six inches to six feet, as any length will do; then with a sharp knife remove the eyes for four or six inches from the bottom; this prevents the stocks making suckers. Let them remain in a cool place for a few days to dry, to prevent damping; then place each cutting in small pots of good rich sandy loam, and filling in a good bark bed, withholding water for ten or twenty days. When the roots protrude through the bottom of the pots, remove into larger, which, when well established, are ready for grafting.

The operation is performed by taking off the head of the stock where the columnar axis has become firm, dividing it with a sharp knife to the depth of a quarter of an inch, being careful not to bruise the soft outer coat. Grafts of any

length, from six inches to eighteen inches long, will succeed; those of last year being the best. Leave the end of the graft wedge-shaped; that is, the columnar axis three-fourths of an inch, clearing away all the soft fleshy part to that length; then press it firmly into the stock until both edges meet, passing a spine of *Opuntia longispina*, or some other strong *Opuntia*, through the stock and graft, to keep it from rising out of its place; bind a little soft moss round the part operated upon, and keep it shaded; in a week or ten days it will have taken hold, provided it is properly performed; in the course of a month the moss may be removed, and the graft cut to four or six eyes, if a bushy regular head is required. Plants on stocks six feet high look the best trained on mushroom-shaped trellises. I have found grafts with several shoots of from six to twelve inches each succeed as well as smaller ones, provided the stocks are healthy. I have a plant at this time of *Epiphyllum speciosum*, grafted on *Cereus speciosissimus* Sept. 4, 1840; the stock is six feet high, and the circumference of the head twelve feet; many of the branches or leaves four feet long.

TO RAISE ROSES FROM SEED.—Having succeeded in raising some beautiful seedlings, I forward the particulars of my method.

In October, I collected the ripest hips of the red officinal, Portland, and velvet Roses. These three sorts seed freely. They were growing among the finer sorts, which seldom ripen any seed. After gathering the hips, I laid them on a stone-paved floor, and rubbed them under a brick, to soften the seed-vessels; then I rubbed them one by one between my fingers. Of this mass I had about two quarts. I sowed the seed immediately, on a wall border, with an aspect opposite the sun at eight o'clock in the morning. The soil was sandy loam. I covered them half an inch deep, and added an inch of sawdust to keep the bed from caking in winter. I removed the sawdust about the middle of the following March, and in the end of that month the plants began to appear; but in a few days I found that the small birds picked them up as soon as their seed-leaves appeared above ground. I put hoops over the beds, and threw a net over them, so as to exclude the birds. The plants continued to come up till September, when mildew attacked them, and in a short time deprived them of their leaves; by counting the plants on a square foot, I found that the bed contained about 800. As winter set in I sifted some fine sand among the plants; but, in spite of all my care, the weakest of them died before the next March. When I took them up, the living plants amounted only to about 100. I planted them in rows a foot separate each way. A few more died; but what remained grew vigorously, and stood their second winter without a death. I did not at all prune them, and the following summer they have all grown well.

ON THE CULTIVATION OF *ANTHOLYZA ÆTHIOPICA*.—*Antholyza Æthiopica* is an old acquaintance of mine, and I have never seen or found any difficulty in blooming it, treated precisely the same as *Ixia Babiana*, and that class of Cape bulbs, which is directly opposite to the above suggestions. Among other bulbs, some two or three years ago, were some of *Antholyza Æthiopica*, in pots. In the month of September of that year, I shook them out of their pots, &c., where they had apparently stood several years, and I re-potted them in some fresh compost, of equal proportions of peat and loam, with an eighth of white sand (more or less peat and sand, in proportion to the texture of the loam); they were then placed in a cold frame, with other things of their class, with the lights off day and night at first; and, as they began to grow, and the nights got colder, shut up at night, and always, from a superabundance of wet, watered only as they required it. In this situation they were kept as late in the fall as possible, protected by mats from frosts at night, until the season began to have a wintry aspect, when they were removed into a cool part of the greenhouse, where they had plenty of light and air. In this way we have had, in the month of March, for the last two years, *Antholyza Æthiopica* flower very freely. Although not the most splendid genus of the order, it is really very

curious and handsome; we have also had several species of *Ixia*, *Sparaxis*, *Gladiolus*, *Watsonia*, &c., bloom splendidly, treated in the above manner. When done flowering, and as soon as the grass or leaves begin to decay, they are placed on shelves, or any other convenient place, to be kept in their arid state until September, when they should again be annually re-potted. Treated in the above manner, I have never known any of the Cape bulbs to fail blooming, and I believe the Iridæ include all which are technically called Cape bulbs. I do not wish to be understood as claiming any originality in my system of treatment, being nothing more than I have seen practised successfully for many years, and, consequently, well known to most practical, and all scientific gardeners. But, being anxious my old acquaintance *Antholyza Ethiopica* should not be rejected as worthless, and fearful lest some inexperienced amateur, who may perchance get a few Cape bulbs, may be induced to experimentalize on high temperature, &c., in their treatment, I was induced to forward for your consideration the above remarks.—*Hovey's Magazine*.

ON PROMOTING THE GERMINATION OF SEEDS.—Many plans have been recommended and adopted for assisting and ensuring the growth of those seeds which are of difficult germination—such as steeping them in solutions of iodine, chlorine, &c.—and happily with considerable success. The fact, is, indeed established, that by certain chemical stimuli, the tardy and latent vital principle of seeds may be excited into action. We must not for a moment, however, confound and degrade the operation of the vital principle itself into mere chemical action; the chemical phenomena are developed as soon as the wonderful operations of this principle are observable.

Of all chemical agents, perhaps none exert a wider and more powerful influence than light. In the vegetable world its effects are manifest and important, the very colour of plants and flowers being dependent on it. When it is withheld, colour is lost, as in the familiar example of blanching celery. I make these general observations respecting the great influence of light on vegetation, in order to bespeak attention to the contrivances I now wish to recommend for promoting the germination of seeds—the application of the chemical stimulus of light. It is simply the placing a square of violet-coloured glass over the top of the flower-pot in which the seeds are sown. It will be found that seeds exposed to the influence of this violet-coloured light will vegetate more quickly than when covered with common unstained glass, or with glass of any other colour. The explanation is this:—when a ray of light is transmitted through a prism, it is separated into its seven component colours, viz.—red, orange, yellow, green, blue, indigo, and violet. Now it is proved by experiment that the violet-coloured ray possesses by far the greatest power of producing chemical action; next to it the indigo, then blue, green, and so on, up to the red ray, which possesses no chemically acting power whatever. On the contrary, the red ray has the greatest heat-giving power, while the violet, the opposite end of the spectrum, exhibits scarcely any. As chemical stimuli are known to promote the germination of seeds, this of the violet-coloured ray of light, as transmitted through a square of stained glass, will be found of the greatest possible efficacy. Mr. Robert Hunt, in his experiments on the effects of different coloured light (viz., red, yellow, green, and blue) on the vegetation of seeds has manifestly stopped short of the truth. Had he proceeded to the indigo, the quickening effects would have been much greater, and if the violet-coloured ray, they would have been tenfold. For practical purposes it will of course be much more convenient to use squares of violet-coloured glass, placed on the top of the flower-pot, than transmitting the light through a bottle containing a violet-coloured fluid, as in Mr. Hunt's experiments; moreover, the mere mechanical effects of a square of glass so placed are very material in assisting the growth of seeds, by preventing the evaporation of water from the soil, and thus preserving a uniform state of moisture.—F. R. HOKNER.—*Gardeners' Chronicle*.

ON USING CHARCOAL FOR POT PLANTS.—A Practitioner begs to call the attention of plant growers to the admixture of pieces of charcoal in the compost.

Since the time that Mr. Barnes, of Bicton, made known his application of it in such successful plant culture, I have adopted it, and with a most astonishing improvement upon my plants. I find, however, it is the more useful when a very free bottom drainage is prepared.

ON COMPOST FOR PELARGONIUMS.—A Constant Subscriber will be obliged by a little information on the subject of growing Pelargoniums. What is the best soil and dung to put in, and what is the best liquid to promote a vigorous bloom. I want to grow them in a cottage for exhibiting at the floral shows.

D. SAXON.

The following modes of treatment are what two of the first-rate growers for showing gave us, and they will give D. S., as well as others, useful information for growing the plants in any situation which circumstances admit:—

"The cuttings are placed in an open border, about the middle of July, and the situation selected is one fully exposed to the mid-day sun. In about six weeks they are rooted, and then potted into 60-sized pots. The pots are placed in a shady situation, on boards or slates, and in three weeks removed to a more exposed and airy situation, when the wood becomes hard. They remain here till nearly the end of September, when they are taken into the house for the winter. At this time the plants are stopped at the third or fourth joint, and they are at the same time shifted into 48-sized pots. The soil is a turfy loam and sand. After this shifting, but little air is given for about eight or ten days; but after this time as much air is again allowed as the state of the weather will admit till about the beginning of December, when the pots will be well filled with roots, and require to be again removed into 32 sized pots. Bone dust is added, but with caution; and never near the surface of the soil, because it is of too drying a nature. The plants are again stopped, and the temperature of the house is maintained at about 45 degrees; at the end of ten days it is allowed to fall to 42 or 40. The flues are damped two or three times every night, to keep the air of the house moist, allowing top air when the weather is favourable. About the middle of February, the plants intended for large specimens are again shifted into 42-sized pots; and the vigorous sized kinds require a size larger. At this time each shoot is tied separately to a proper stake. Fires are discontinued about the beginning of April, and the plants are syringed over head three times a-week, and the house closed for the night. This treatment is continued for about a month, the house being damped every evening, and the top sashes opened the first thing in the morning, and as much air allowed during the day as can be given with safety. When the plants show bloom they are freely watered and shaded with canvas. At the time of housing the plants, the dead leaves are carefully removed, and when the green fly makes its appearance, a fumigation of tobacco is used, care being taken that the plants are in a dry state at the time; they must be well watered over head in a day or two afterwards. When the flowering season is over, the plants are removed to an exposed situation for a fortnight, till the wood is hard, when they are cut down. Those plants intended as specimens the second year after heading down, are placed in a sheltered situation, where little water is given, and when the shoots are an inch long, they are shaken out of the pots and planted in others two sizes smaller; by this treatment they are kept more healthy during winter. When thus potted, they are placed on a stage in a shady situation, and removed to the house "at the proper time," and treated during the winter as already described. The plants intended for exhibition are occasionally watered with liquid manure or guano, and syringing overhead is discontinued. Gauze blinds are used, by which bees are prevented entering the house to injure the bloom, and are on no account allowed to flag by exposure to the sun, or for want of water. It is especially recommended to commence the training of the plants at an early period of their growth, while the shoots are young and pliable. By early training, the shoots acquire the desired form, and fewer stakes are therefore required. The flowers are arranged so that there is an equal distribution of blooms over the head of the plant; to effect this, small willow twigs are used. Practice alone can teach the art of preparing flowers for exhibition. The less art is used the better,

and the means should always be kept out of sight. The compost I use is the following:—Two barrows full of good maiden loam, with the turf, one ditto well rotted cow dung, three years old, and one of rotted leaf mould. This requires to be frequently well turned over in winter, to destroy the worms and insects. One peck of silver sand, and one ditto of bone dust; for the winter repotting, a little more sand is added."

"I strike the cuttings about the beginning of June; or sooner, if the plants will bear cutting. As soon as rooted, they are removed into 60-sized pots, and set in a shady situation on boards or slates, or in a cold frame. When rooted, they are removed to an open situation, and as soon as the plants will bear the sun without flagging, they are stopped. In September they are repotted into 48-sized pots, and at this time I commence training. In December and January those that are sufficiently strong, are again shifted into 16-sized pots; in these pots they are allowed to bloom. About the middle of July or beginning of August, they are headed down and set in a shady sheltered situation; and when the plants have shoots near an inch long, the soil is nearly all shaken from the roots, and they are again repotted into the same sized pots. As the shoots are formed they are carefully thinned out. In the greenhouse, the plants intended for exhibition are kept four feet apart; the front sashes are kept open on all convenient occasions. In November the plants are stopped, and a stake put to each shoot. The leaves are thinned out to allow the air to circulate freely. In December and January, the strongest plants are again selected and potted into 8-sized pots, and at this time additional heat is applied to enable the plants to root rapidly. In February, they are syringed in the afternoon, but sufficiently early to allow them to dry before night. In March they are again repotted in 2-sized pots, water is now very liberally supplied. When the flowers begin to open, a shading of cheese-cloth is used on the outside of the house. Air is admitted before the sun has much power on the glass, and this is found to prevent the attacks of the green fly. The success of all the other operations depends on the mode of applying fire heat. The fires are lighted at 3 or 4 o'clock in the afternoon, allowed to go out about 9 or 10. They are again lighted about 3 or 4 in the morning. The thermometer during the night is kept at 40 degrees or 42 degrees Fahrenheit. The soil is prepared thus—a quantity of turfy loam is chopped and laid up in a heap, a quantity of fresh stable litter is then shaken up and laid in the form of a mushroom bed. If the weather is dry at the time, the manure is well watered; liquid manure and the steam or ammonia is prevented from passing off by a covering of slates. In this state it is allowed to remain fifteen or sixteen days, and is then mixed with about an equal quantity of fresh loam, and when the mixing is completed, the heap is at last covered with loam. At the end of a month or five weeks it is turned over three or four times, in order that the dung and loam may incorporate well together. In twelve months it is fit for use. To two barrowfuls of this compost is added one of leaf mould, and a peck and a half of silver sand."

A LIST OF THE COLLECTIONS OF PELARGONIUMS EXHIBITED AT CHISWICK AND REGENT'S PARK SHOWS, &c.—A Country Florist will be obliged by an early list of the names, &c., of the new Geraniums exhibited at the London Shows.

[We shall give a particular descriptive list in our next number, in the mean time we give the names of those shown at Chiswick at the last exhibition, and which were unusually superb:—

Twelve new and first-rate kinds, Mr. Cock, of Chiswick—Lucifer, Orion, Mars, Ate, Pearl, Hector, Rosy Circle, President, Negress, Zenobia, Margaret, Desdemona.

Mr. Dobson, of Isleworth—Queen Pomare, Orion, Rosy Circle, Adolphus, Arabella, Competitor, Isabella, Hebe's Lip, Hindoo, Othello, Margaret, Gigantic. Mr. Gaines, of Battersea—Pamela, Agrippina, Hector, Arabica, Duchess of Leinster, Medusa.

Mr. Catling—Orion, Pearl, Hector, Magog, Agrippina, Rosetta Superb.

The above are the new kinds.

The following were shown in general selections:—Twelve kinds, Mr. Cock—Orion, Duchess of Leinster, Queen Agrippina, Rosy Circle, Sir R. Peel, Shield of Achilles, Hector, Repeal, Duke of Cornwall, Emma, Rosetta, Katinka. *Mr. Robinson*—Duke of Cornwall, Aurora, Priory Queen, Erectum.

Mr. Dobson—Pulchellum, Marcus, Isabella, Marc Antony, Zenobia, Ragged Robin, Mustee, Rosy Circle, Matilda, Pauline, Margaret, Orion.

Pinks.—*Mr. Turner's* collection, first prize—Norman's Henry Creed, Hale's Queen of England, Turner's Masterpiece and Sir H. Smith, Norman's Defiance, Eclipse (Brown's), and Garland; *Harris's* Dauntless, *Holmes's* Coronation, *Unsworth's* Omega, *Collis's* Majestic, *Lord* Valentia, *Garratt's* Alpha, *Wilmer's* Prince of Wales, *Weedon's* Victoria, *White's* Warden, *Cousin's* Little Wonder, *Ward's* Great Britain, *Caul's* Criterion, *George* Glenny, *Melona*, *Jones's* Huntsman, and *Heariston's* Prince Albert.

Pelargoniums (seedlings), blooming first time in 1846.—*President*, *Gem*, *Centurion*, and *Cassandra*.]

Floral Operations for July.

GREENHOUSE plants of most kinds now strike readily by cuttings, the new wood being somewhat firm. Those annual plants that have not yet been transplanted out should now be done, in cloudy and showery weather, keeping as much earth to their roots as possible, and supporting those with sticks that require it; they will bloom well in August and September. Tender annuals may now be turned out into the flower borders; they should be refreshed at least once a day with water, and if the sun is very powerful they will require to be shaded, till they have taken fresh root; those that remain to flower in pots must be frequently supplied with water, repotting, &c., as they require it. Finish transplanting perennial and biennial plants sown in spring. Double Sweet Williams should now be laid. Those Carnations in pots require particular attention in keeping them well supplied with water, and to support the flower stems by tying them to neat green sticks with bass; pipings of the young shoots may still be put in; those cut at the second or third joints make the handsomest plants; they should be kept shaded from the hot sun, otherwise they will soon get scorched and dried up; they should be finished layering by the middle of the month. Pinks may still be propagated by pipings as in June. Auricula plants in pots will require a little water frequently in hot weather, taking care not to pour it on the heart of the plant; all dead leaves should be removed; if any of the plants are attacked with the green fly they should be smoked with tobacco, or sprinkled with tobacco water. Transplant seedling Auriculas and Polyanthuses, and keep them in a shady place. Pansies may still be propagated by slips of the young shoots; the seed should be sown either in pots or borders, in a shady place, and well supplied with moisture. All sorts of Roses (with the exception of the China and its varieties) should now be budded. Many sorts of bulbous-rooted plants, as Ranunculuses, Tulips, Anemones, &c., which will now be past flowering, and their leaves decayed, should be taken up, well dried, cleaned, and the offsets separated, and put in a cool, airy place, till the planting season again commences. The double scarlet Lychnis, and such like plants, should be propagated by cuttings. Geraniums may now be increased by cuttings. Dahlia cuttings will easily take root if placed in a brisk heat. Continue to cut box edgings and hedges, where it was not done last month. Mignonette now sown will bloom well in September. Pelargonium cuttings should now be put in, so as to have well-established plants for blooming next year, or for growing in next year, so as to prepare them for extra specimens for the year following. Carnations, &c., where there are more than three buds upon a stem, take off the others, in order to improve the size. If attacked by green fly use immediate remedy by tobacco water, or loam and water in a liquid state.

Univ. of
California



1, *LIPARIA PINNATIFIDA*.

2, *CALYSTEGIA PUBESCENS*.

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,

AUGUST 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

1. LIPERIA PINNATIFIDA.

THIS pretty little green-house plant from South Africa, forms a slender neat bush, blooms very freely, and will readily flourish in any light good soil. It is also well adapted for beds in the summer flower garden. It may be had at the principal nurseries.

2. CALYSTEGIA PUBESCENS.

Mr. Fortune, the collector sent out by the Horticultural Society, to China, sent home this new bindweed, during the past year; and as we have already noticed it at p. 115, we will only add here, that we find it to grow freely in the *open border*, forming a very handsome climber, and as it may be increased with the facility of the tribe, we have no doubt it will soon become very generally cultivated.

ARTICLE II.

SOME REMARKS ON THE AMOUNT OF MOISTURE ABSORBED
BY PLANTS.

BY MR. J. TODD, DENTON GARDENS, LINCOLNSHIRE.

As the chief operations of horticulture are calculated either directly or indirectly to influence the vital actions of plants, it is obvious that

VOL. XIV. No. 162.

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the results of our proceedings will be successful in proportion to their accordance with the economy of vegetation. Hence I would impress upon the minds of amateurs and gardeners in general, the necessity of acquiring some knowledge of, and acting upon, strictly physiological principles. This, and this only, will elevate their pursuits something higher than the mere work of chance, and enable them to calculate with certainty upon the results of their operations.

My intention is to submit to the readers of the *CABINET*, a few popular remarks elucidative of the *science* of Horticulture. The amount of fluid absorbed by the roots of plants, varies according to the constitution and habits of the species; the humidity or dryness of the surrounding atmosphere, and also the presence or absence of solar light. Most herbaceous and quick-growing soft-wooded species, require a far greater quantity of moisture to keep them in a healthy condition, than those whose wood is of slower growth, and firmer texture. It would have been difficult to have given a healthy young Vine, Fig-tree, Balsam, Calceolaria, Cockscomb, or Scarlet Pelargonium, too much water during the bright dry days of last month (June), whereas an Acacia, Hovea, Eutaxia, Lechenaultia, &c., would have soon become sickly, and died under similar treatment. Now this great difference between the absorbing powers of the former and latter species of plants, results (as above intimated) from their peculiar constitution and habits. The rapid growth of the former necessarily involves the taking up of a large supply of fluid by the roots, to be converted into nutritious juice; which conversion is chiefly effected by the leaves under the influence of light. Here by a wonderful process it is elaborated, the superfluous portion being principally exhaled from their breathing pores (stomata), chiefly situated on their under surface, and the remainder returned (now termed proper juice) for the formation of new tissues, and the consolidation of that already formed. The process of vegetation in the latter tribe of plants is precisely on the same plan, though on a smaller scale; these roots are less numerous, and have fewer fibrels and sponglets; these breathing pores are also much smaller, and not nearly so many on a given space. Hence it will be perceived, that the small amount of moisture necessary to the support of these, in proportion to such as the former mentioned plants, is owing to their incapacity to dispose of it. So in their culture great care should be taken not to administer a

larger supply of this very necessary element, than they have the power to consume, otherwise they will soon assume a sickly appearance, and their roots become black and rotten by stagnation. And again in making a selection for window culture, the generality of such plants ought to be rejected, as in such situations dust is mostly generated, which soon chokes up their digestive organs, and renders them inadequate to perform their functions; under which circumstances it is impossible to keep the plants long in a healthy condition. In regard to the state of the atmosphere, much also depends. If it be highly charged with moisture, the exhalations of watery particles from the surface of the leaves, will be necessarily impeded, and therefore the absorption by the roots, as the one is always in proportion to the other. And this is the reason why cuttings strike much more freely, and certainly in a moist atmosphere, than in a dry one. In the former case the quantity of fluid exhaled is so small (particularly if the atmosphere is confined), as not to exceed the quantity imbibed by the severed ends of the young shoots, whereby an equilibrium is established, and the life of the individuals sustained till such time as they have made roots of their own; whilst in the latter, the quantity passed off is so great in proportion to that taken up by their cut ends, that their leaves soon become flaccid and dried up, and the cuttings not unfrequently die. And should they even overcome the shock caused by this undue demand upon their crippled energies, they will have made less progress, and be in a much worse condition at the end of three months, than they would have done at the end of three weeks, had due attention been paid to their constitutional wants. The reason why sun-light so greatly accelerates the amount of moisture sucked up by the roots of plants, is due to its influence over the leaves, whose breathing pores or mouths it causes to open to the widest extent, and consequently facilitates the liberation of those aqueous particles which are ever being evolved during the process of elaboration. Under such circumstances, therefore, a plentiful supply of water is indispensable, or the drooping of the plants will be the consequence; and even this will be insufficient in the case of newly-planted and weak subjects, which, in addition to plenty of water, should have the scorching rays of the sun partially intercepted by some kind of shading, as thin garden-mats, nets, boughs of trees, &c., as circumstances may suggest.

Should the above remarks meet with your approval, they will be

succeeded from time to time by sundry papers, calculated (it is hoped) to interest your readers, and elucidate some particular branch of their pursuits.

[We hope to be favoured with the promised communications from our intelligent Correspondent.—CONDUCTOR.]

ARTICLE III.

ON PROPAGATING ERICAS FROM SEEDS, AND GENERAL CULTIVATION.

BY A PRACTITIONER.

I AM glad to observe that this very highly interesting genus of plants is again becoming extensively cultivated. I think too upon a more successful system of management than was practised a dozen years back. I herewith forward the mode of management I have pursued, with the greatest success.

PROPAGATING ERICAS.—This very interesting and numerous genus is best cultivated in a house dedicated exclusively for themselves; and where such is the case, such house is known by the appellation of heath-house or heathery, and to be complete should contain from about two hundred and fifty to three hundred species, which will afford a considerable share of bloom throughout the year. Heathhs are comparatively of late introduction, for we find that in Miller's time, few were known, and those only of the hardy kinds: none of the Cape species being at that time introduced. To his late Majesty George the Third we are considerably indebted for the introduction of this charming genus of plants.

That monarch, at his private expense, sent Mr. Mason, a most assiduous collector, two voyages to Africa, for the almost express purpose, and by his exertions, the first collection of *Ericas* in this country was formed. The late venerable Mr. James Lee, in company with Mr. Kennedy, of the Hammersmith nursery, may be looked upon as the first professional characters who embarked in this speculation, and their collection was looked upon as unrivalled in Europe. These were not only the first commercial collections formed, but there also the mode of culture first devised, which has been the means of disseminating them throughout Europe, chiefly under the management and direction of our late ingenious, although unfortunate friend, Cushing. Subsequent collectors have added considerably to this

genus, and although last, but not least, that indefatigable young botanist, Bowie, who not only visited Africa with a view to discover new species, but also to draw conclusions from their natural habits, to enable us to improve their culture; and from the observations made by him, and freely communicated to us as well as to others, there is no doubt, that had he survived his second journey, this genus, which hitherto has been considered difficult to propagate and cultivate, would have been much improved by his valued observations. A genus so interesting, and, we may say, so long fashionable, must necessarily have attracted the attention of home cultivators; and from the profusion of flowers which most of the species produce, and their parts of generation being for the most part so perfect, we need not be surprised at the many hybrids which the care or curiosity of the cultivator has produced. To the valuable exertions of the Hon. and Rev. W. Herbert, we are primarily indebted for many plants of this description; and from his paper on this subject, in the Transactions of the Horticultural Society, we are led to infer, that this promiscuous impregnation goes on to a considerable extent at the Cape, where millions of them must be in flower at the same time.

Heaths, like most other plants, propagate themselves from seed, although most of them cultivated in this country have hitherto been originated from cuttings; few from layers, and so far as we know, none have been propagated by grafting, or similar processes. A considerable portion of them ripen their seeds with us, and there are annual importations of seeds from the Cape. Those seeds ripened in this country vegetate most readily; whilst those imported are often too old, or sometimes injured, before they reach us. As those imported generally reach us in winter, they should be sown early in spring; indeed some cultivators advise their being sown immediately after their arrival; but we have hitherto found, that if sown too soon, that is, in February or the beginning of March, that they do not vegetate so quickly, and, in consequence, many of the seeds are rotted; for it is a maxim that should never be lost sight of in the culture of this tribe, which is, that artificial heat should never be employed, excepting in some cases of slow growing kinds, that may require a slight heat to draw the young shoots out to a sufficient length for the purpose of cutting; but even in this case, the seldomer they are so excited, the better.

Artificial heat, therefore, is injurious to the process of originating heaths from seeds; we, therefore, in our own practice, as well as from observation of that of others, prefer the latter end of March or beginning of April for sowing these seeds; the natural warmth of the season then is sufficient to stimulate vegetation, and the young tender plants so originated have not the chance of being destroyed by damp cloudy weather, which we often experience in spring, and which would be of the utmost injury to them in their young state. Where extensive collections of plants are kept up, and in all large nurseries, there is generally a seed-house, that is, one expressly dedicated for the rearing of plants from seeds; such houses are generally low, having a northern aspect, as is the case in the Hammersmith and other nurseries.

Cultivators, who have but few seeds requiring such a structure, content themselves, therefore, with a good garden frame and glasses; and as such is portable, it can be placed where it is either shaded from the meridian sun, or great care taken in shading it artificially. The situation of such a frame should be both dry and airy, for damp would be extremely injurious to the young plants. Pots should be prepared for the seeds, of ordinary sizes, but those known as seed-pots are to be preferred; they are broad and shallow, which admits of a considerable surface for the seed to be sown on, and of being rendered perfectly dry at bottom. Great care should be taken in draining them, for although the surface will require to be kept pretty moist, still no impediment must be left whereby the superabundant moisture would be prevented from passing freely off. The directions given for draining cutting-pots will be, if acted upon, sufficient for this purpose. The mould upon which the seeds of heaths are sown, should be of the sort called peat-earth, having naturally a considerable portion of fine white shining sand in it, or, if deficient in this material, it should be added to it by the cultivator.

As the seeds are very small, the mould for this purpose, to the thickness of an inch and a half, should be sifted very fine, and the surface of the mould in the pot rendered smooth and level with a small circular piece of wood, say of three inches diameter, having a nail driven into the centre of its upper surface, by which the operator can use it to much greater advantage. Upon the surface so prepared, the seeds should be thinly sown regularly all over it, and covered

with the same kind of mould to the thickness of one-eighth of an inch, more or less, according to the size of the seeds, as some are larger than others. The pots so sown should be then placed upon the platform in the seed-house, or upon a floor (if in frames) of finely-sifted coal-ashes, and after being gently watered with a very fine rose watering-pot, be shaded from the sun. This shading must be continued constantly on during sun-shine, until the plants be from half-an-inch to an inch high ; afterwards it must be gradually removed to harden them by degrees, to fit them for potting off into separate pots. Some cultivators place bell or hand-glasses over the seed-pots when sown, and when such can be spared, they may be with some propriety used. For five or six weeks, the surface of the mould must never be allowed to become dry, but be daily examined, at the end of which time, the seeds may be expected to have vegetated. When such is the case, the bell or hand-glasses should be gradually removed, first by being lifted up about a quarter-of-an-inch, and in increasing this air, until entirely removed. Some seeds of course do not vegetate so soon as others, therefore the pots should be still carefully attended to ; but if after three months, or little more, all hope of their vegetating may be given up. Plants, so originated, will be about the middle or end of September in a fit state to plant out into thumb or thimble pots, as they are called, and which are the smallest sizes that are made.

Heaths which ripen their seeds in this country, should be sown as soon as they are ripe, provided this does not occur after the first of September ; such as ripen afterwards (and several do so) had better be kept packed up in paper till the following April, when they may be sown as above directed. Plants originated at this time will be sufficiently strong by autumn to pot off ; and it is even better then to pot off such as are very small, than allow them to stand in the seed-pots all winter. It is perhaps not easily accounted for, but plants stand the winter better when potted off in autumn in single pots, than if they were to remain in the seed or cutting-pots all winter ; and the same rule holds good in regard to potting off cuttings propagated at any period of the year when quite young, that is, immediately after they have commenced making roots. This is not perhaps generally known, at least it is not always acted upon, as many persons, from an idea that the plants will become strong and better rooted, defer too long the process of potting off, and, in consequence, lose both time

and many of their plants. It may, perhaps, not be quite out of place here to observe, that such seedlings or cuttings as have originated in the fine white sand of cultivators, should have their roots completely cleared of it before they are potted in their natural mould; for although most plants emit roots in that sand, it becomes injurious to many of them after they quit their cutting or seed state.

We may here however remark, that this family are less annoyed by insects than most other exotic plants, still they are not entirely exempt; for that destroying insect, the green fly of gardeners, sometimes attacks the heath, and as it is found impatient of the usual remedy, tobacco smoke, the best cultivators dip the plant, or parts infected, in a decoction of tobacco liquor. Mildew sometimes attacks the heath; but this, like the cause of its appearance in all other cases, must be owing to damp or stagnation of air. To remedy this evil, has not always been found an easy task; indeed, we recollect, about two years ago, to have seen nearly the whole collection of this family in the nursery of a cultivator, who is allowed to be one of the best in the neighbourhood of London, nearly destroyed by it. Free ventilation and a dry atmosphere seem the basis of a certain cure, and the application of flour of sulphur dusted on the plants, or put on them in form of paste, may be considered as effectual in removing the evil.

(To be continued.)

ARTICLE IV.

THE METROPOLITAN FLORAL EXHIBITIONS.

ROYAL BOTANIC SOCIETY, *May 20.*

At this, the first exhibition for the season, the magnificent display of plants and numerous attendance of visitors, amply testified that their already great popularity is increasing; and we only regret limited space, as usual, prevents so full a report being given as we could wish.

1. —STOVE AND GREENHOUSE PLANTS.

In collections of 30.—In this class two collections were shown, one by Messrs. Frazer, of Leabridge, and the other by Mr. Barnes, gardener to G. W. Norman, Esq., of Bromley. The group from the former comprised the most magnificent specimens of first-rate cultivation. We will name particularly *Boronia serrulata*, a splendid bush, 3 feet by 4; *Eutaxia pungens*, about the same size; a well-grown *Bossia disticha plumosa*, producing multitudes of dull yellow and brown

flowers; a very fine *Gardenia radicans*, covering the pot with healthy foliage; and ornamented with upwards of 50 of its sweet-smelling blossoms; *Azalea indica ledifolia*, 6 feet in height, and 4 feet in diameter; *Chorozema spectabile* in good condition, and *C. Henchmannii* equally fine; also superb plants of *Epacris grandiflora*, *Pimelia linifolia*, and *Aphelexis humilis*. Mr. Barnes had, as usual, some remarkable plants, particularly *Rondeletia speciosa*, about 3 feet high, and nearly as much in diameter; *Gompholobium tenellum*, *Dillwynia splendens*, *Phenocoma proliferum*, *Erica Thunbergia*, and *Pimelia Hendersonii*. We likewise noticed good plants of *Cyrtoceras reflexa*, and *Acrophyllum venosum*.

In collections of 20.—Here there were five competitors; the first prize was won by Mr. Hunt, gardener to Miss Trail, in whose collection we noticed a splendid plant of a variety of *Chorizema cordata*, trained to a globular trellis; *Gompholobium polymorphum*, trained to a large shield, beautifully in bloom; *Pimelia decussata*, large and fine, together with some fine *Azaleas*, *Ericas*, and other plants. Messrs. Lucomb, Pince, and Co., of Exeter, received the second prize. We remarked that lovely stove climber, *Dipladenia crassinoda*, the comparatively new *Epacris miniata*, presenting a good display of its brilliant flowers; *Cattleya Forbesii*, with eleven flowering spikes; a large *Gompholobium barbigerrum*, covered with large yellow blossoms; a pyramidal *Eriostemon buxifolium*, near 5 feet high; and also excellent specimens of *Azalea leucomegista*, and *variegata*; with *Acrophyllum venosum*, *Epacris grandiflora*, *Erica intermedia*, and others. The third prize was awarded to Mr. Pamplin, of Walthamstow, and to Mr. Catleugh, of Chelsea the fourth.

In collections of 10.—There were seven exhibitors of these. Mr. Green, gardener to Sir E. Antrobus, Bart., of Cheam, produced the best; we remarked *Chorizema varium*, var. *Chandlerii*, *Gompholobium splendens*, and fine specimens of *Pimelia Hendersonii*, *Aphelexis humilis*; *Ixora coccinea*; *Leschenaultia formosa*; and *Erica Beaumontia*. The next group in point of merit was from Mr. Ayres, gardener to J. Cook, Esq., of Blackheath; in it we saw *Polygala oppositifolia*, 2½ feet in height, and 3 feet in diameter, quite a mass of blossom; *Aphelexis splendens*, very fine; and *A. spectabilis grandiflora*, the best of the genus, together with a charming *Azalea lateritia*, and an exceedingly healthy *Crowea saligna*.—Mr. May, gardener to E. Goodheart, Esq., of Bromley, was third, and sent *Hovea Celsi*, a rather bare plant, but finely in bloom; a well-flowered *Azalea lateritia*, trained to a face; a large *Erica hybrida*; *Aphelexis purpurea grandiflora*; and *Polygala acuminata*. A fourth prize was given to Mr. Kyle, gardener to R. Barclay, Esq., Leyton, who showed some excellent plants, particularly *Podolobium trilobatum*, and *Stephanotus floribundus*. In the groups from other growers, which our space forbids us to particularize, we observed the white-flowered variety of *Swainsonia galegifolia*; a large *Indigofera australis*; *Mahernia incisa*, nearly 5 feet high; and a large *Kennedia longiracemosa*, trained over a wire trellis; quite a mass of lilac flowers.

In collections of 6.—Mr. Clarke, gardener to W. Block, Esq., of Muswell Hill, obtained the first prize in this class. His plants were, *Ixora coccinea*; *Chorizema varia*; *Boronia serrulata*; *Erica perspicua nana*; *Aphelexis humilis*, and *Leschenaultia formosa*. The second prize was given to Mr. Kaye, gardener to R. D. Colvin, Esq., of Norwood, for *Azalea variegata*; *Pimelia decussata*; *Epiphyllum Jenkinsonii*; *Selago Gillesii*; *Erica M'Nabiana*; and *Euphorbia splendens*. Other prizes were awarded, but the collections did not comprise anything very remarkable.

ORCHIDACEOUS PLANTS.

The exhibitors in this class were few. Messrs. Rollisson, of Tooting, received the first prize, and Mr. Plant, gardener to J. H. Schroder, Esq., the second, in the class of *fifteen species*.

In the group from the former, we noticed the beautiful *Phaius bicolor*; *Dendrobium chrysanthemum*; the curious *Myanthes cerneus*; the red-flowered

Broughtonia sanguinea; *Cirrhaea fuscolutea*, with two pendent racemes of green flowers, more curious than beautiful; the Mexican *Trichopilia tortilis*; *Calanthe veratrifolia*, and some others. The group from Mr. Plant contained, among others, the well-known *Brassia maculata*; the rare and delicate white-flowered *Phalenopsis amabilis*; and a good *Myanthus cernuus*.

In collections of 10.—Mr. Green obtained the first prize; and the next group in point of merit came from Mr. Hunt. The latter contained a fine plant of the Indian *Phaius Wallichii*. Mr. Don, gardener to F. G. Cox, Esq., of Stockwell, received a third prize; we noticed a fine plant of *Brassia Lanceana*, with dense drooping racemes of buff blossoms, of no great beauty; *Stanhopea eburnea*; *Cyrtocentrum maculatum*; and *Cymbidium lancifolium*, var. *Gibsonii*. In addition to these there was a collection from Mr. Rae, gardener to J. T. Blandy, Esq., of Reading, and which was considered the best collection; but on account of non-conformity with the Society's rules, was disqualified; among other things it comprised a small plant of the very handsome *Dendrobium Devonianum*; a good *Cattleya Skinneri*, with six spikes of purple blossoms; the best variety of *Oncidium ampliatum*; and *Vanda Roxburghi*, with pale brown-veined petals and violet lip.

CAPE HEATHS.

A considerable number of these were produced, embracing many very excellent specimens; there was nothing, however, very new amongst them.

In the collections of 15 species.—Mr. May, gardener to E. Goodheart, Esq., Beckenham, received the first prize. The most striking kinds were, *Thunbergia*; *Ventricosa alba*; *Sprengelli*, and *grandinosa*.

In collections of 12 species.—For nurserymen; the first prize was awarded to Messrs. Fairbairn, who produced, among others, *jasminoides*, a fine *ventricosa alba*, and *metulaeflora*, having numerous heads of flowers, the violet tinge of whose reflexed petals contrast well with the red waxy-looking tubes. The next group was contributed by Messrs. Fraser. It contained a lovely *propendens ventricosa breviflora*, clad to the pot with foliage and flowers, and a pretty *daphnoides*.—Messrs. Rollisson sent *denticulata moschata*, loaded with small white and yellow flowers. Several others were shown. The first prize for a collection of six, open to private growers only, was obtained by Mr. Green, with *Cavendishii*, three feet by three; *suaveolens* and *Hartnelli*, about the same size; *intermedia* and *ventricosa coccinea minor*, each about two feet by three; and *glauca* (?) two feet by two. Mr. Maylon, Blackheath, received the second prize for *mirabilis*, *hybrida*, *ventricosa coccinea*, and *coccinea minor*, *vestita alba*, and *vestita coccinea*, all neatly grown.

AZALEAS.

For eight plants, Mr. Fraser obtained the first prize, with *triumphans*, *Gledstanesii*, *fulgens*, *variegata*, and *exquisata*, each about two feet by two; and larger bushes of *speciosissima*, *phœnicea*, and *smensia*. Collections of four varieties were shown by Mr. Barnes, Mr. Green, and J. Alnutt, Esq., who respectively obtained the first, second, and third prizes. Mr. Barnes had *lateritia*, *Herbertii*, *variegata*, and *macrantha purpurea*. Mr. Green had *sinensis*, *Rawsonii*, *Smithii coccinea*, and *alba*. Mr. Alnutt's plants were—*variegata*, *alba*, *phœnicea*, and *fulgens*.

SPECIMEN PLANTS.

A number of prizes was awarded to these, the highest being given to Mr. Clark, of Muswell Hill, for a finely bloomed *Pimelia spectabilis*, nearly three feet high, by as much across. A second prize was awarded to Mr. Green for a well-bloomed plant of *Ixora coccinea*,

and a third prize was given to Mr. Verdon, gardener to Earl Cornwallis, Linton Park, for *Cattleya labiata*. Several other prizes were also awarded.

NEW OR RARE PLANTS.

In this class there was nothing very striking; of those which were *in bloom*, and deemed by the judges deserving an award, was a rutaceous plant exhibited by Messrs. Lucombe and Pince, named *Erythrochiton Braziliense*, having large white flowers, half enveloped within a brown calyx. Messrs. Rollisson, of Tooting, received a prize for *Theophrasta Jussiei*, a plant brought from Spain some years ago, but probably not very generally known. Messrs. Lucombe and Co. also received a prize for a species of *Gompholobium*, with light crimson-red flowers, in the way of *G. Youngii*. There were also exhibited by Mr. Dods, gardener to Sir G. Warrenden, Clifden, *Lyperia pinnatifida* (figured in our present number), and *Franciscea acuminata* (Pohlana) by Mr. Wood, of Poole, a species of *Orchidaceæ*, in the way of *Cyrtorchilus filipes*; by Mr. Henchman, of Edmonton, *Kennedia glabrata minor*; and by Mr. Barnes, *Chorizema ericoides*, and *Gompholobium Hugellii*; the latter plant was also shown by Messrs. Lucombe and Co. Of new or rare plants *not in bloom*, but remarkable for the beauty of their foliage, Mr. Robertson, gardener to Mrs. Lawrence, obtained a prize with *Pavetta Borbonica*, a noble looking plant, with beautifully spotted leaves, having deep red midribs. Messrs. Lucombe and Co. received the next prize with *Sarracenia Drummondii*. These gentlemen also sent the curious little *Cephalotus follicularis*; and Mr. E. Beck, florist, Isleworth, showed *Anzotichilus setaceus*.

II. FLORISTS' FLOWERS.

PELARGONIUMS.

In collections of 12 new varieties.—In this class, amongst private growers, Mr. Cock, of Chiswick, and Mr. Staines, of Paddington, were the only competitors. The former was awarded the first prize for some splendid specimens of *Erectum*, *Emma*, *Hector*, *Mustee*, *Marc Antony*, *Milo*, *Rosy Circle*, *Rosetta*, *Sir Robert Peel*, *Sultana*, *Shield of Achilles*, and *Cora*. Mr. Staines had the second prize with *Adonis*, *Ackbar*, *Aurora*, *Duke of Wellington*, *Duke of Cornwall*, *Erectum*, *Marchioness of Lothian*, *Nestor*, *Sir Robert Peel*, *Sunbeam*, *Sylph*, and *Rosalie*. In the nurserymen's class, the first award was given to Mr. E. Beck for *Aurora*, *Arabella*, *Bellona*, *Desdemona*, *Favourite*, *Hebe's Lip*, *Hindoo*, *Isabella*, *Mustee*, *Resplendent*, *Rosy Circle*, and *Zenobia*. Mr. Catleugh was second with *Duke of Sutherland*, *Free Briton*, *Grand Monarch*, *Hebe*, *Luna*, *Madeline*, *Milo*, *Magog*, *Mary*, *Orion*, *Rosetta*, and *Symmetry*. Mr. Gaines showed some very

excellent plants of Cothorstone, Nosegay, Augusta, Prince Alfred (Gaines), Excelsa, Don Juan, Alba Superba, a fine white, Fire King, Cossack, Lady Prudhoe, Imperialis, and Pilot: for these a third prize was awarded. To Messrs. Smith, of Pimlico, a fourth prize was given for Hebe, Vanguard, Madeline, Sylph, Fair Maid of Devon, Duke of Cornwall, Lady Sale, Queen of Beauties, Coronation, Cleopatra, Queen of the Fairies, and Leonora.

In collections of 12 varieties.—Mr. Parker, gardener to J. Oughton, Esq., Roehampton, was the only exhibitor amongst amateurs, and Mr. Gaines amongst nurserymen; each of whose collection was very fine, and received a first prize. The former showed Gipsy, Priory Queen, Hebe, Nymph, Erectum, Queen of Beauties, Caroline, Madeline, Duke of Cornwall, Unit, Superba, and Comte de Paris. Mr. Gaines had Lady Isabella Douglas, Nymph, Una, Rising Sun, Coronation, Albina, Sylph, Matilda, Lady Sale, Erectum, and Victory.

In collections of 6 varieties.—Mr. Coysh, of Clapham, obtained the first prize with Hebe, Madeline, Erectum, Alice Grey, Lady Sale, Unit, Comte de Paris, and Evening Star. Mr. Miller, of Edgeware, received a second prize for Erectum, Duke of Cornwall, Duchess of Sutherland, Enchantress, Mulberry, Susannah, Marchioness of Lothian, and Cleopatra.

ROSES.

In collections of 12 in pots.—These were mostly of a very superior description. Messrs. Lane, of Berkhamstead, obtained the first prize; Messrs. Paul, of Chess-hunt, the second; Mr. Beck, the third; and Mr. Francis, of Hertford, fourth. Messrs. Lane's plants were the following:—*Tea*—Barbot, Reine, Victoria, Nisida, Triumph de la Guillotiere, Elise Sauvage, Anteros. *Alba*—Princess de Lamballe. *Hyb. Per.*—Queen, Psyche, Grand Capitaine. *China*—Miellex; and *Bourb.*—Proserpine. Messrs. Paul's were, *Tea*—Nina, Taglioni, Safrano. *Hyb. Per.*—Louis Bonaparte, Aubernon, Rivers. *Hyb. Bourb.*—Great Western. *Hyb. China*—General Allard. *Bourb.*—Bouquet de Flora, Paul Joseph, Arnosa; and *Austrian*—Persian Yellow. Mr. Beck's were, *Tea*—Comte de Paris, Devonensis, Goubalt. *China*—Virginie, Fabvier. *Bourb.*—Queen, Le Grenadier. *Hyb. Per.*—Comte D'Eu, William Jesse, Prudence Ræser. *Austrian*—Harrisonii; and *Hyb. China*—General Allard.

FUCHSIAS.

In collections of 6.—Four of these were produced; a first prize was given to Mr. Kendal, of Stoke Newington, for Queen Victoria (Smith), Cassandra (Gaines), Erecta elegans (Kendal), Sappho, Lady Sale, and Miss Prettyman (Miller). A first prize was also adjudged to Mr. Robertson, gardener to J. Simpson, Esq., Pimlico, for Goldfinch (Harrison), Magnet (Pawley), Vesta (Smith), Iveryana, Hope, and Unique. Mr. Gaines showed some remarkably well managed and uniform plants, for which a second prize was given, the kinds being—Favorite (Gaines), Duchess of Sutherland (Gaines), Clara (Harrison), Princess Mary (Gaines), Queen of Bourbons (Gaines), and Unique. The other collection was from Mr. Pawley.

CALCEOLARIAS.

The exhibition of these was small, and amongst nurserymen Mr. Gaines had it to himself. His collection of 6, however, comprised capital specimens of successful management, and deservedly received the highest award. The sorts were, Ada, Madeline, Prince Alfred, Alpha, Enchantress, and Duchess of Beaufort. In the amateur's division, Mr. Garrod, of Hampstead, obtained the first prize with Sandishii, Fructifera elegans, Sir R. Sale, Lady of the Lake, Prince of Wales, and Surprise. Mr. Wren, of Holloway, obtained the second prize with Andromache, Anne, William Paine, Artilleryman, Sandishii, and Sir R. Sale. And Mr. Louis, gr. to P. Hurd, Esq., of Kentish-town, received the third prize for Magnet, Artilleryman, Corymbiflora, Lady Constable, Target, and Defiance.

TULIPS.

Two stands of these (*in 12 varieties*) only were exhibited, which, considering the precarious season, were creditable.

The first prize the Rev. Mr. Wilson, of Norwich, obtained, with Surpass, Salvator Rosa, Coriolanus, Nanteau Duval, Aglaia, King (Holmes), Reine de Nan (?), Incomparable de Lisle, Charlotte, Polyphemus, Cerise à Belle Forme, Brutus, and Optimus. Messrs. Norman, of Woolwich, received the second prize for William (Norman), Aglaia, Lord Bloomfield, a fine bloom of Maria (Goldham), Roi de Siam, Polyphemus, Prince of Wales (Norman), Optimus, Claudiana, a fine rose, Royal Albert, Matilda, and Prima Donna.

HEARTSEASE.

In stands of 24.—There was a number of competitors for the prizes in this class. Mr. Turner, of Chalvey, was first, with Hale's Diamond, Hunt's Tom Pinch and Hamlet, Collison's Perseus, Juno, and Daughter of St. Mark, Turner's Dido and Optimus, Thomson's Azorea grandiflora, Pizarro, Jehu, and Regulator, Cook's Star, King's Hero of Bucks, Purple Perfection, Seedling, and Exquisite, Hooper's Mary Jane, Attwell's Isabella, Brown's Arethusia, Jones's Titus, and Major's Duke of York and Victoria. Mr. Bragg, of Slough, obtained the second prize with Constellation, Fanny, Wellington, Negro, Mary Jane, Bridal Ring, Bragg's Goliath, Virgil, Desirable, Regulator, Marquis of Lansdowne, Curion, Napoleon, Companion, Marginata, Diamond, Exquisite, Hamlet, Perseus, Mulberry, Superb, Dido, Caractacus, Pizarro, Marchman, and Grotius. A third prize was given to Mr. Thomson, of Iver; but to these we could find no names attached.

SEEDLINGS.

Pelargoniums.—Of those bloomed the previous season, four were selected by the judges for prizes, viz., Mount Etna (Hoyle), and Beck's Competitor, Hebe's Lip, and Patrican, all of which we noticed last month, at p. 176. Amongst the Seedlings of the present year, certificates of merit were given for the following:—To Mr. Hoyle, of Guernsey, for *Queen of Tyre*, purplish rose, with a small clouded spot on the top petals, shaded off to the ground colour at the edge; for *Lord Stanley*, a very even flower, of a purplish tint, and having very dark clouded top petals, with a narrow purple edge; and for *Flora's-flag*, blush, with a dark veiny cloud surrounded by a dash of crimson, with a pale edge, rather uneven; to Mr. Miller, for *Volgius*, an even flesh-coloured flower, with pale centre, and dark veiny cloud edged with rose; and to Mr. E. Beck, for *Compactum*, an even-formed, pinkish flower, with white centre, and dark veiny clouded upper petals. Besides these were *Anti-Bacchus*, from Mr. Hoyle, a fine flower, with rosy pink lower petals, and dark upper ones, belted with pink. Mr. Gaines had *Cassandra*, a bright light red, and there were several others from Messrs. Catleugh, Miller, and Beck.

Calceolarias.—A great number of these were shown; the six which

were selected by the judges for prizes possessed distinct and fine characters. They were named *Masterpiece*, *Emperor*, *Oscar*, *Viscount Hardinge*, *Sir H. Smith*, and *Aurea maculata*; the three former being exhibited by Mr. Kinghorn, of Twickenham, and the latter by Mr. Gaines, of Battersea. The best amongst the others we considered to be Kinghorn's *Marquetry*, Gaines' *Merry Monarch* and *Lady Mason*, *Mount Etna*, *Hon. Mrs. Walroyd*, *Warwickshire Lass*, and *Miss Prettyman*, the latter a very delicate, pretty-looking flower: these five were sent by Mr. Kimberley, of Coventry.

Fuchsias.—The most novel flower amongst these was one named *Corallina*, from Messrs. Lucombe and Pince, of very large size; we could almost fancy, by its appearance, that it was a seedling between *Affinis* and *Exoniensis*; the tube and sepals are bright crimson-red, the corolla deep purple, and, as in the old kinds, this contrast of colours gives that striking appearance of which so many new ones of the present day are void. A second prize was given to Mr. Gaines for a good sized, stout flower, of a red colour, named *Lord Hill*, and a certificate was given to Messrs. Fairburn, for *Predominant*, also a red-coloured flower.

Heartsease.—Several of these were shown, but only one, from Mr. Thompson, of Iver, named *Satirist*, received a certificate. This flower is well shaped, flat, and of good substance, and quite novel in colour; the shield or ground colour, which is generally white or yellow, is of a warm brown, and, the eye, top petals and broad margin round the lower ones, are of a deeper bronzy brown.

Amongst other seedling flowers, we noticed a clear dark blue *Cineraria*, named *Royal Blue*, from Mr. Irwood; an *Azalea*, named *Gledstanesii formosa*, which was pretty, but only slightly differed from the original variety: it was from Mr. Pawley, of Bromley. Mr. Henderson, of Pine Apple-place, Edgware-road, had a seedling *Erica*, with bright rose-coloured flowers, named *Vestitu eximia*; and two seedlings from *Ventricosa*, named *V. globosa alba*, and *V. nana alba*, were from Mr. Pamplin. Finally, amongst the seedlings we particularly noticed a box of cut blooms of fifty splendid seedling hardy *Azaleas*, from Mr. Waterer of Knaphill, some of them quite novel in colour; an extra prize was deservedly awarded them.

Of the many *miscellaneous subjects* shown we will only observe that the most attractive was the *fancy-flowered* *Geranium*, *Anais*, of

which Mr. Gaines showed four plants, that presented so gay and beautiful an appearance as to elicit the unrestrained admiration of all beholders.

ARTICLE V.

ON RAISING SEEDLING CARNATIONS AND PICOTEEES.

BY A FLORIST.

THE culture of the Carnation, though elaborately written upon by many with ability and experience, has in one point, and that a very material one, been either totally neglected or slightly or discouragingly mentioned, I mean the progressive improvement of the flower and its subvariety the Picotee, by raising new plants from seed. Hitherto we have been taught that the production of new and fine varieties of either Carnation or Picotee, is an extremely difficult and even arduous undertaking—the proportion being from one to two good flowers to one hundred inferior and worthless plants. With this I perfectly agree, provided that the ordinary mode of obtaining the seed be pursued. We are told that it is a plant that never produces seed in considerable quantities, nor even any at all, unless in very dry and warm summers and under peculiar treatment, and even then with difficulty, arising, as it is stated, “from the extreme doubleness of the flower,” a mistake originating either from ignorance of the natural structure of the flower and its physiology, or from want of sufficient experience in the writer. The Carnation is one of nature’s most brilliant offerings to the flower garden, and although almost universally cultivated and admired for the symmetry and fine colouring of its blossoms, and for its delicate and grateful perfume, it is rarely seen in its fine varieties, some of which are really splendid and admirable, eclipsing all the flowers of its season, and making it pre-eminent as the ornament of the summer, as the *Dahlia* is of the autumnal months.

The scarcity of those fine flowers arises from two causes,—first, from the jealousy of the few florists possessing them, who think them worthy of being exhibited and distributed to the initiated only; and secondly, from the neglect of raising plants from the seed of the best flowers, and from such only. Any florist who has sufficient energy and who wishes to derive more gratification from the culture of his Carnations than he has yet enjoyed, may, by attending to the following

directions, obtain ample amusement and an abundant repayment for his time and trouble, in the production of many valuable and magnificent new flowers.

It is true that nearly all the blossoms of Double Carnations, if unaided by the hand of the gardener, will be unproductive of seed, but they are in very many cases capable of being made fertile. The organs of reproduction are in almost every instance fully developed; from the crowded state of the petals the operations of nature for production are defeated.

Every gardener and florist should know that plants are analogous to animals in their power of multiplying their kind, and require the co-operation of the sexes. In the Carnation, though ever so double, the male part of the flower or stamen is generally found, as is also the pistil of the female portion, together with the ovary, containing the embryo seeds, which may be observed by examining the blossoms of any double Carnations. The sexual distinctions are most easily distinguished. The florist, to be successful in obtaining seed, has but to imitate nature, and by rendering his double flower as similar as possible to the single one facilitate her operations. This is done by extracting with a double-pointed scissors the supernumerary petals, leaving only the outer guard-leaves, taking care, however, not to injure the stamens or ovarium. This should be done before the anthers burst and shed their pollen, in order that the petals may not prevent its falling on and being received by the stigmas, which is the usual cause of abortion in the double blossoms of the Carnation; or the florist, if he pleases, may cut away the stamens, and apply the pollen of some other admired variety to the stigmas of the flower thus deprived of its male organs, and so fertilize the embryo seed, which is the most advantageous way of proceeding, as the variety among the seedling plants will be more marked and beautiful; and curious to say, more like the father plant, or that from which the fertilizing pollen was taken, than the mother parent, or that which produced the seed. Semi-double flowers are more easily managed this way, and may be made fruitful with the pollen of your best double flowers. The production of flowers is often effected through the instrumentality of bees and other insects, when collecting either honey or pollen from the flowers; in such cases the seed is frequently lost by neglecting to protect the blossoms from too much wet, and to extract the decaying

petals, quickly lose their beauty and brilliant colouring, and being no longer needed, wither and die ; they should then be cut away, lest by retaining moisture, they should communicate disease to the base of the ovary (where the petals had been attached) which is of a spongy and light structure, and very liable to rot, if not preserved in a dry state. The stems should now be loosed from the stakes to which they were fastened, and the plants given as much air as possible. When the pericarpium has attained to half its size, it will be necessary to remove as much of the calyx or cup that contained the flower as can be done without injuring the seed-pods. The plants will now need little further care until the maturing of the seed, when they must be carefully looked over every day, lest the pods should burst and lose their seed. When ripe, the pods should be carefully gathered and preserved unopened, until the following May, which is the most proper time for sowing, or the seeds extracted may be preserved in small well-corked bottles, which is the mode usually adopted.

It has been stated that layering Carnations prevents their flowering as well as if it had not been done, and also prevents their producing seed. This I have found is not the case ; if the plants are layered sufficiently early, the bloom will be stronger, and without doubt they will give more seed in consequence of the increased resources of the plant, each layer becoming rooted, and enabled to support itself, as well as contribute to the strength of the parent plant : they ought not, however, to be detached until the seed is gathered, else a failure of your crop will be the consequence. The seeds that have ripened in the early part of the season may be sown as soon as gathered, in a sheltered part of the garden, and the young plants placed out on a well manured south border, where (with slight protection during the very severe weather of winter) they will become strong blooming plants for the ensuing summer, thus gaining a year, as by the usual culture the plants never show their flowers until the second year from sowing. The late-saved seed is to be sown and the plants treated in the usual way. This process may seem a little troublesome, but it is really not so ; and the gratification arising from the production of very many beautiful flowers, will, I am sure, amply repay the person who pursues it.

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ALPINIA NUTANS. NODDING-FLOWERED ALPINIA. (Pax. Mag. Bot.) Scitamineæ. Monandria Monogynia. This beautiful stove plant is a native of the East Indies, whence it was brought many years ago by Sir Joseph Banks; it is at present rare in collections. The racemes nodding, about 10 inches long. The flowers are yellow inside, streaked with crimson; outside white, with rose tip. It is a noble and handsome plant, and deserves a place in every collection.

AZALEA OBTUSA. Blunt-leaved Azalea. (Bot. Reg. 37.) Ericacæ. Decandria Monogynia. This beautiful Chinese Azalea was introduced by Mr. Fortune, in 1844, from Shanghai, in China. The flowers are of a light red, and are produced very abundantly. It is a very pretty dwarf shrub.

BARNADESIA ROSEA. Rose-coloured Barnadesia. (Pax. Mag. Bot.) Compositæ. Syngenesia Polygamia Æqualis. It first flowered at Sion House in the stove. Native place not known. The flowers are like a Centaurea in form, and of a beautiful deep rose, about an inch and a half across. It is very handsome, and deserves a place in every stove.

BEGONIA ALBO-COCINEA. White and scarlet Begonia. (Bot. Reg. 39.) Begoniaceæ. Monœcia Polyandria. This Begonia was raised from seed sent from the East Indies to the Royal Gardens at Kew. The outside of the calyx a vivid scarlet, and the inside pure white. It is similar in growth to most of the tribe.

CATTLEYA LEMONIANA. Sir Charles Lemon's Cattleya. (Bot. Reg. 35.) Orchidacæ. Gynandria Monandria. This new Cattleya is a native of Brazil; it flowered first at Carclew in the month of September, 1845. It is very handsome; the flowers are about three inches in diameter; sepals white, tinged with pink; petals of a deep pink; tube of the labellum same, and the lip yellowish, edged with pink. It is worthy of a place in every collection.

DAVIESIA PHYSODES. Hatchet-leaved Daviesia. (Bot. Mag. 4244.) Leguminosæ. Decandria Monogynia. This interesting little Daviesia was introduced into our greenhouse from the Swan River, by Mr. Cunningham. The flowers are produced in spikes, and are of a rich orange red and yellow. It is an exceedingly handsome shrub, and easily cultivated.

EPACRIS DUBIA. Doubtful Epacris. (Bot. Reg. 38.) Epacridacæ. Pentandria Monogynia. It is in the possession of Mr. Jackson, of Kingston. The flowers are white, but of no great beauty.

ERIOSTEMON SCABRUM. Rough Eriostemon. (Pax. Mag. Bot.) Rutacæ. Decandria Monogynia. This beautiful greenhouse plant is a native of Sidney, New South Wales. It has been for some time in the collection at Messrs. Loddiges, of Hackney; it is dwarf in habit, and a very free flowerer. The flowers are produced on the branches in spikes, and are of a light pink, with a yellowish centre. This pretty plant should possess a place in every greenhouse.

FRANCISCEA HYDRANGEÆFORMIS. Hydrangea-like Franciscea. (Pax. Mag. Bot.) Scrophulariacæ. Didynamia Angiospermia. It is a native of Rio Janeiro and other parts of Brazil, from whence it was introduced in 1837. It is a beautiful stove shrub. The flowers are of a dark blue, with a yellowish centre; each flower about one inch in diameter, and forming a beautiful head.

GESNERIA BULBOSA, VAR. LATERITIA. Tuberous-rooted Gesneria. (Bot. Mag. 4240.) Gesneriaceæ. Didynamia Angiospermia. This Gesneria was brought from New Grenada to the Royal Gardens at Kew, by Mr. Purdie, the collector. It first flowered at Sion House. The flowers are similar to *G. Cooperii* in size and shape; their colour is a light brick red. This is a very curious variety, and ought to be found in every stove.

GESNERIA ELLIPTICA, VAR. LUTEA. Elliptic-leaved Gesneria. (Bot. Mag. 4242.) Gesneriaceæ. Didynamia Angiospermia. This Gesneria was also brought from New Grenada by the collector of Kew. The flowers are tubular, of a bright yellow, with purple anthers. This variety is very showy, and makes a very good addition to our stoves.

LEIANTHUS UMBELLATUS. Umbellate Leianthus. (Bot. Mag. 4243.) Gentianeæ. Pentandria Monogynia. This plant is a native of Jamaica; it grows erect to the height of about twenty feet. The flowers, of a light green, are produced in a head with long stamens, forming a tuft similar to that of the large double Hypericum.

PITCAIRNIA UNDULATIFOLIA. Broad-waved Pitcairnia. (Bot. Mag. 4241.) Bromeliaceæ. Hexandria Monogynia. Thought to be a native of Brazil; sent to the Royal Gardens, at Kew, by Mr. Shepherd, of Liverpool. The flowers are in spikes; the bractæ large and of a scarlet colour; corolla long and white. This species is very splendid and showy; it attains to the height of about one foot and a half. No stove collection ought to be without this beautiful variety.

ROYENA LUCIDA. Shining Royena. (Bot. Reg. 40.) Ebenaceæ. Decandria Monogynia. This plant was brought from the Cape of Good Hope, as far back as 1690. Its flowers are white, resembling those of the common Arbutus.

SARCOTEMMA (PHILIBERTIA) CAMPANULATUM. Bell-shaped Sarcotemma. (Bot. Reg. 36.) This plant is, probably, a native of Peru. It is a greenhouse climber; the flowers are a yellowish green, with a dark centre, and are produced in spikes having ten or twelve blossoms in each.

THEOPHRASTA JUSSIEI. Jussieï Theophrasta. (Bot. Mag. 4239.) Theophrastaceæ. Pentandria Monogynia. This stove plant was introduced from St. Domingo; it is somewhat like a Palm in habit. The upper part of the plant is crowned with a tuft of leaves, and in the centre is produced a head of flowers, a sort of dirty white or cream colour. Each flower is about one inch in diameter; it is surrounded towards the top with soft blackish spines.

GRAELLSIA SAXIFRAGÆFOLIA. Saxifrage-leaved Graellsia. Hardy Perennial. (Crucifers.) Persia. A little plant, with long-stalked kidney-shaped or roundish leaves, very coarsely notched, and smelling strongly of garlic. The flower stems are about nine inches high, and bear a compound corymb of small white flowers, resembling those of the common scurvy grass. It grows freely in any good rich garden soil, and is well suited for rockwork. It flowers in July and August, and is increased by dividing the old plants in autumn or spring, or by seeds.—*Journal of the Horticultural Society.*

OPHIPOGON PROLIFER. Proliferous Snake's-beard. Stove perennial. (Lily-works.) Singapore. This has a slender stem slowly rising by means of roots, which its leavy shoots throw out, in the manner of a screw Pine. The stems are not thicker than a swan's quill, and bear at intervals clusters of bright-green sword-shaped leaves, which curve downwards, and are longer than the flowering stems. The latter are bright purple, and bear in an interrupted manner a few clusters of nearly sessile small, white, obovate flowers, whose texture is between fleshy and spongy. It succeeds in rough, sandy peat. During summer an ample supply of water is necessary; also a very moist atmosphere, at a temperature of not less than 60° by day. In winter it requires to be treated almost like an Orchidaceous plant; if a humid atmosphere is kept up, little or no water will be required for a few weeks.—*Journal of the Horticultural Society.*

AZALEA SQUAMATA. Scaly-stalked Azalea. Greenhouse Shrub. (Heathworts.) China. From the mountains of Hong Kong, whence it was sent by Mr. Fortune, as a fine and distinct species. With the habit common to all the Chinese Azaleas, they present the following peculiarities:—In its natural state it blooms without leaves, producing at the end of every little shoot a large solitary flower of a clear rose colour, distinctly spotted with crimson on one side, and guarded at the base by a large sheath of bright brown scales (whence its name). Its calyx, unlike that of the neighbouring species, is reduced to a mere five-toothed rim. Its ovary, immediately after the fall of the corolla, projects in the form of an oblong body quite covered with coarse brown hairs. The leaves, when young, are somewhat like those of *A. indica*, and have nothing distinctive in their shape or surface; but when old they are oval, sharp at each end, perfectly hairless, and as even on the upper surface as those of *Rhododendron punctatum*. This plant has been long known from dried specimens and drawings sent from China by Mr. Reeves, the latter of which are preserved in the library of the Society; but it has never before been introduced alive. At present its flowers have only been produced by plants out of health, and therefore they have given no just idea of the beauty of the plant, which is one of the finest in cultivation. It will probably prove hardy. In a case, containing several plants, Mr. Fortune sent home a portion of the soil, brown loam, in which this species was found wild, and for the purpose of trying its effects one plant was potted in it; but it has by no means the healthy appearance of those potted in rough sandy peat. It strikes freely from cuttings of young wood under ordinary treatment. The beautiful spotted flowers (although not large) and the neat foliage, together with a dwarf habit, will render this a plant of considerable importance either in a greenhouse or in the shrubbery.

AZALEA OVATA. Hardy Shrub. (Heathworts.) China.—From Chusan, where Mr. Fortune found two varieties; "the one with white, the other with pink or lilac flowers; both spotted and very beautiful." Among the early despatches from Mr. Fortune was received a drawing of this beautiful shrub, which, according to the Chinese artist, has most delicate pink flowers of the size and form of the *Davurian rhododendron*. The original plants did not survive the voyage; but a packet of seed has furnished an abundance of young plants, which have been distributed extensively to the Fellows of the Society under the name of "*Azalea* 274." The dried specimens received from Mr. Fortune enable the species to be positively determined. It is entirely different in foliage from all the other Chinese Azaleas; for instead of the pale-green colour and abundant hairs which characterise them all, this has perfectly hairless leaves, unless in the seedling state, and they are of a very dark green. Their form, too, is quite distinct; for instead of tapering gradually to the stalk, they are abruptly ovate, or even in some cases almost heart shaped. The plant has been too recently acquired for any knowledge of its true habits to have been acquired; but seedlings in the open air have borne the frost of last autumn, and it was considerable on two occasions, without having suffered in the least; and if, as seems probable, the plant should not be inclined to push early, it will not only be a hardy evergreen, but one of the finest in the country.

ACHIMENES ALBA. A dwarf variety, flowers tubular, dotted with black. The limb only being white. At the Tooting Nursery.

ACHIMENES PATENS. Spreading Achimenes. Greenhouse herbaceous plant from Mexico. One of the first objects to which Mr. Hartweg directed his attention on his return to Mexico, in 1845, was the recovery of this beautiful plant, which he had found in the course of his former researches, but which had not been reared in the garden of the Society. Although the season was so far advanced that herbage had all become withered, he succeeded in discovering some roots, which were immediately sent home by the post, and proved to be this plant. Nor does it disappoint the expectations that had been formed of it; for with the habit and foliage of *A. longiflora* it bears flowers of so intense a violet that no artificial colours can imitate them. This most remarkable tint fades away on the outside of the corolla into a clear bright purple, and is renewed on the tube of the corolla in an intermediate tint. The border of the corolla is slightly notched,

and its tube is extended into a singular blunt horn, which projects beyond the calyx, and is more or less lobed at the sides. The corolla measures about an inch and a half across the flat border, and the tube is rather larger. *Achimenes patens*, like most of the other kinds, may be treated so as to flower nearly at all seasons of the year, and only requires to be kept in a dormant state and quite dry when at rest. It should be started gradually, and grows best in a soil composed of a small portion of well decomposed cow-dung and half decayed leaf mould, in a very rough state. It is easily increased by the scaly roots, and requires a close atmosphere, but not a very damp or hot one. It is a very handsome kind, being one of the finest both for colour and foliage.

GARDENIA FLORIDA, L.; var. FORTUNIANA. Mr. Fortune's *Gardenia*. Green-house shrub from North of China. The common single and double varieties of this plant are known to every one. That which is now noticed differs merely in the extraordinary size of the flowers, which are nearly 4 inches in diameter, and in having fine broad leaves, sometimes as much as 6 inches long. The flowers are pure white, changing to light buff as they go off, and not unlike a very large double *Camellia*. Their calyx has the long broad lobes of the original species, instead of the narrow lobes, at least twice as short as the tube of the corolla, of *G. radicans*, by which that species is technically known. It is one of the very finest shrubs in cultivation, and ranks on a level with the double white *Camellia*, which it equals in the beauty of the flowers and leaves, and infinitely excels in its delicious odour.—*Journal of Hort. Society*.

NEW PLANTS EXHIBITED AT THE HORTICULTURAL SHOW AT CHISWICK, ON July 11th.—Messrs. Veitch and Son, of Exeter, sent a handsome, new, and, apparently, free-flowering *Ixora*, having large pale-green leaves, and semi-globular heads of salmon-coloured flowers, something in the way of *I. crocata*. From the same nursery were also *Cuphea cordata*; a new *Æschynanthus pulcher*, and another new form of that handsome genus, with purple-tinged leaves, and dark-red blossoms issuing from a downy chocolate sheath. Associated with these was the same long-spurred *Balsam* (*B. latifolia*) produced at the June show; and a *Clematis*, named *glandulosa*, with large heart-shaped leaves, and numerous long-stalked deep chocolate and white flowers. F. Scheer, Esq., of Kew, sent a new Bolivian *Echinopsis*; Messrs. Henderson, of Pine-apple place, their new *Æschynanthus Boschiunus*; Mr. Robertson, gardener to Mrs. Lawrence, the handsome *Pavetta Borbonica*; Mr. Jack, *Cuphea miniata*, a pretty species, with opposite hairy leaves, and axillary flowers, having a purplish tipped calyx, and two erect vivid scarlet petals. Along with it was also a small *Mussaenda macrophylla*. From Messrs. Rollisson was a *Hoya*, with clusters of greenish-white blossoms, less handsome than *carnea*. Mr. Jackson, of Kingston, sent a variety of his Seedling Heath (*E. Jacksoni*), a good addition to this beautiful tribe; and the Chinese *Lycopodium cæsum*. Mr. Fairbairn, of Wandsworth-road, *Polygala Dalmaiana*; and Mr. Groom, *Calyptegia pubescens*.

NEW PLANTS FROM CHINA, &c.—Most of our readers are aware that the Horticultural Society sent a collector of plants (Mr. Fortune) into China. Some very valuable ones have already bloomed in the Society's garden, and high expectations are entertained of many others. A writer in a recent number of the *Gardener's Chronicle* describes a few which are now in bloom, and knowing our readers will be gratified to know somewhat of them, we extract a portion. "Mr. Fortune's *Indigofera decora*.—This forms a dark-green bush, with somewhat glaucous branches and pinnate leaves, from whose axils are produced racemes of beautiful light rosy flowers; indeed the whole appearance of the plant is very handsome, fully realizing all that has been said of it. Near it was another of Mr. Fortune's plants in bloom in the shape of *Rhynchospermum jasmimoides*, a pretty sweet-scented greenhouse twiner, with snow-white flowers something like those of the white jasmine. It will, no doubt, form a valuable addition to this class of plants. On a front shelf was a *Lysimachia*, producing

racemes of small white flowers; if hardly, this may possibly be a good plant for bedding out. It was raised accidentally from seeds which had been deposited among the mould with which Mr. Fortune packed one of his Chinese importations of plants. On the same shelf was *Calandrinia umbellata*, a beautiful object, either for ornamenting the shelves of our greenhouses, or for planting out in patches on rockwork. The flowers are produced in tolerable abundance, and the colour (a deep 'purple') is the most lovely imaginable. We may here mention a little experiment which has been made on the growth of Cacti in water. On the 11th of June, 1845, a plant of *Mammillaria pulchra* in a 3-inch pot was placed in a 6-inch pot, which, having the hole at the bottom stopped up, has been kept full of water, and, singular as it may appear, the plant is growing very luxuriantly under this anomalous treatment, although it has been constantly kept in the water, from the above date to the present time, and fully exposed to the ever varying temperature of a greenhouse. This being quite the reverse of the treatment such things generally receive, would seem to offer a useful hint to the growers of this interesting tribe, and it further shows that the nature of Cacti under cultivation is but imperfectly understood. In the range of pits in front of this house was Mr. Fortune's last importation of plants from China. They are all in good condition; the *Pæonies* are just beginning to break, the *Camellias* and *Roses* also look well, more especially the *Camellias*, and some *Caprifoliaceous* plants. In the same range was *Achimenes patens*, the lovely new species lately received from Mr. Hartweg: with the habit and foliage of *A. longiflora*, it bears flowers of an exceedingly beautiful violet colour, changing on the outside of the corolla into a clear bright purple. The tube is extended into a singular blunt spur which projects beyond the calyx. It is, perhaps, the most beautiful of all the species yet introduced, fully realizing the high expectations formed of it. In this pit was also an Arabian production like a *Flumeria*, with a large fleshy stem swelling out at the base, and with gnarled *Ceradia*-like branches bare of foliage, except at the ends, where a tuft of tolerably large, shining, dark-green, obtuse ovate leaves surround the flowers. The blossoms themselves are very handsome, something like those of an *Echites*; the tube being about an inch in length, of a pale yellow outside, spreading out into five delicate pink petals, edged with deep rose. Associated with it was the *Naras* fruit, a production about which as yet little is known. It was found growing on little knolls of sand by Captain Sir James Alexander, when he visited the country near Walwich Bay, on the south-west coast of Africa, forming bushes 4 or 5 feet in height, without leaves, and with opposite thorns on the light and dark green striped branches. The fruit is stated to have a coriaceous rind, rough with prickles, and to be twice the size of an Orange; the inside resembling a Melon as to seed and pulp. When ripe it has a sub-acid taste, very agreeable in that hot country; and without it the natives could not remain near the coast. Inhabiting as it does that excessively dry, hot, and barren region, it was considered that the plants would succeed without water; but this is a mistake; for it has been found that out of all the plants that germinated from seeds sown in the garden, those only which have received plenty of water have survived. Two plants in a pot, receiving a copious supply every morning, with a slight shade and a moist heat of about 80°, are now nearly a foot in height, producing spiny-looking stems, rising from between two cotyledons, exactly like those of a Melon or Cucumber. What the result, however, may turn out to be, it is as yet impossible to foretell.

ECHINOCACTI AND MAMMILLARIA.—I cannot omit noticing, for the information of your readers, an ingenious method of propagating such interesting plants:—Mr. Turner, curator of the Botanic Garden, Bury St. Edmund's, received from South America a rare specimen of *Echinocactus*, which was decayed at its base, and would not emit fresh roots; he, therefore, seared it at the top, and cut off the diseased part, which after being healed in a dry stove, produced several small plants on the summit; a second species, which was deemed incurable, was cut transversely and placed on a shelf in the succulent-house, and being fixed on a pot of soil, soon made a strong plant. He has also increased, to a considerable

extent, some of the species of *Mammillaria* by cutting off the protuberances on *Mammillaria*, which, after being dried on sand, produced perfect plants under a bell-glass with bottom-heat.—*N. S. Hodson (Gardeners' Chronicle)*.

BLUE AND WHITE FLOWERED PYRAMIDAL CAMPANULAS.—This plant, when grown to a degree of vigour it is capable of, by a rich soil, and plenty of pot room, with one or more shiftings into larger as required, I find to grow nine feet high, with numerous subordinate spikes, and during some months at the end of summer to make one of the most showy plants in cultivation. As the pots may be purchased at five shillings per dozen, I am induced to send this small notice of the plant, that the readers of the *CABINET* may be enabled to provide and cultivate this truly sweet and splendid flowering plant. When grown in pots, it forms one of the most ornamental plants for a greenhouse-room, or to be placed in a vase on the lawn, or in a flower-garden. Or if grown in the open border in a deep and rich soil, it merits a place in all. I have found that by placing one of the blue flowered kinds in a shady place in the greenhouse or room, the flowers become paler and are of a most beautiful French lilac colour, most strikingly handsome.

AN AMATEUR OF THE METROPOLIS.

LABELS MADE OF GLASS.—The best kind of label for marking plants is a problem that, I think, has not yet been solved. The marks on wood and iron soon become indistinct. The removal of the duty on glass drew my attention to the subject. No. 1 is a tube of glass, half-inch internal diameter, about two inches long from shoulder to bottom; the name of the plant is printed or written on a piece of paper, about one inch and a half square, folded cylindrically, and introduced into the tube. The tube is then corked and sealed with resin, sealing-wax, asphalt, thick paint, or other cement. A piece of very slender copper-wire is twisted round the neck of the tube by which it may be attached to a wooden or metallic support, or to the branch of a shrub or tree. The above will probably be most generally used, as the label can be introduced or changed at pleasure. But No. 2, in which the tube is closed hermetically, will, on account of its neatness and perfection, be preferred by many. When used, the names of the plants must be sent to the glass-blower to be inserted before sealing the tube hermetically.—*Jos. C. Gamble (Gardeners' Chronicle)*.

ON ACHIMENES ARGYROSTIGMA.—The best way of cultivating this plant is to grow it in masses planted in large pans or pots, as it then produces a multitude of spikes of its pretty delicate looking flowers, which present a graceful, and I think elegant, appearance, that goes far to compensate for any deficiency of those brilliant colours which distinguish its brethren. C.

Floral Operations for August.

PELAGONIUMS.—Plants that have done blooming should soon be cut down, this will induce them to push fresh shoots immediately. When the shoots have pushed two inches long, the old plants should be repotted, shaking off the old soil and replacing with new. This attention to have a supply of strong young shoots before winter, furnishes the vigorous blooming wood for the ensuing spring, and the plants are kept dwarf and bushy. When the young shoots push after being headed down, there are generally many more than necessary to be retained. They should be thinned when an inch long, and the tops now cut off may be inserted in sandy loam, and struck if required.

GREENHOUSE.—The young wood of many kinds of greenhouse plants being sufficiently hardened, if cuttings be immediately put in they will root well before autumn.

CAMELIAS may be shifted at this period. I consider it an excellent plan to

perform this operation the moment that the flower-bud is decidedly formed. As compost, I would recommend two-thirds of fibrous loam of an unctuous character, and one-third of fibrous heath soil. The more fibrous and lumpy it is the better, and a good sprinkling of charcoal in small masses, with sharp silver sand, should be added. Let the pots be most completely drained, by placing some large crocks in a very hollow position at the bottom; topping these up with a pounded mixture of broken crocks and charcoal, from which all the very small particles have been riddled. Cover this with very fibrous turf in small lumps, before placing the ball, and keep pressing the material (not ramming) close, with the fingers, during the process of filling up, observing to have the compost in a mellow state, rather inclining to dryness. One most material point is, to see that the ball is thoroughly moistened before shifting; if any doubt of this exist, let the ball be steeped in water for a quarter of an hour, previous to potting. When the flower-buds are in clusters, thin them, so as to leave no more than are likely to be perfected. If too many remain they injure the plant, and eventually drop off in spring.

DAHLIAS.—Thin out the branches of those kinds which are introduced for shows, and if it is desired to increase the stock of any new one, cuttings may be selected which will readily strike and form good sized pot-roots: water should be given copiously every evening, during dry weather; a stratum of manure should be laid for three feet around the stem of each plant, which will greatly assist in promoting a vigorous growth, and in the production of fine blooms during the ensuing month.

CALCEOLARIAS.—Cut off the flowering stems, place the pots in a cool frame, shade from hot sun. In a week or ten days repot them. (See Article in July Number.)

AURICULARS AND POLYANTHUSES.—Seedlings raised during spring should now be transplanted into pots for blooming next season. Repot the old stock. (See Articles upon it.)

CARNATIONS.—The blooms are now beginning to fade, and the operation of laying should be performed *without delay*: in doing this, take your seat astride a common form, get the pot before you, and steady the layers with your left hand, resting the back of your right hand upon the edge of the pot and holding the knife upwards between your two fore fingers and thumb, then with a steady hand and correct eye, cut upwards quite through the middle of the second or third joint from the top; the cut may be extended a full quarter of an inch beyond the joints; if the joints are wide apart, always take the second; remove the leaves that ensheath the joints, and shorten the nib just below them; be careful not to break off the layers in pegging them down, and cover the joints three quarters of an inch deep; remove them into the shade, water them with a fine rosed pot, and repeat it afterwards as often as necessary. Never cut off the tips of the leaves.

RANUNCULUSES, TULIPS, ANEMONES, &c.—Roots should now be taken up and gradually and well dried in an airy room.

ROSES.—Budding should be finished as soon as possible.

Mignonette, to bloom during winter, should now be sown in pots.

FLOWER GARDEN.—Heartsease should be propagated by slips, put into a shady border, and kept quite moist till they have taken root, these will form fine strong plants for blooming the spring following. Chrysanthemums should have their shoots stopped to make them branch, and keep them bushy, not later than the middle of this month, as, if done later, the lateral produce would be weak and the blossoms small.

Where the plant has numerous shoots, they should be thinned out to a few, to have them large and showy.

Cuttings of Verbenas, Pelargoniums, double Ragwort, Petunias, Heliotropes, Anagallises, Calceolarias, Hemimeris, Salvias, Bouvardias, &c. should immediately be struck where a stock is required for beds next year. If this attention is delayed, the plants will not be so rooted as to be likely to survive the winter.

PINKS.—If pipings, or slips, be well rooted, about the middle of the month, they should be planted in beds, or potted.

Univ. of
California



TORENTIA
BIBOULLA

1. *TORENIA CORDATA*. 2. *GESNERIA ELLIPTICA*, *Indea*.

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,

SEPTEMBER 1ST, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

1. TORENIA CORDATA (HEART-SHAPED LEAF.)

ALTHOUGH this new species is inferior in the beauty of its flowers to *T. asiatica* (figured in the CABINET for July), it is, nevertheless, a very pleasing plant, and in growth possessing an advantage over that kind, by being more compact. Our figure was prepared from a specimen bloomed in the Clapton nursery, where it had been received from the London Horticultural Society, under the appellation of "herbaceous plant from China:" and as one of its distinguishing characters is presented in the novel shape of the leaves, we have adopted the specific name above given. The plant appears to grow successfully in a light rich soil, and treated after the ordinary manner of greenhouse plants: we dare say, however, it will ultimately be transferred to the summer flower-garden. We already find *T. asiatica* to flourish there.

2. GESNERIA ELLIPTICA, LUTEA. (ELLIPTIC-LEAVED, YELLOW VARIETY.)

Our drawing of this novel-coloured Gesnerea was made from a plant in bloom at the Kew Botanical Gardens during the early part of the present summer. We are informed it was originally discovered, with several other varieties of the same species, having various intermediate shades to a pale red, by Mr. Purdie, at Santa Martha,

in New Grenada. To all lovers of the ornamental and particularly interesting tribe of Gesneriads, the present kind has considerable claim, not alone for its distinct and clear colour, but because with that it combines an excellent erect habit, and a disposition to bloom freely. The usual treatment suffices to grow it.

ARTICLE II.

ON THE CULTIVATION OF THE PINK.

BY MR. E. F. FAIRBAIRN, NURSERYMAN, WANDSWORTH ROAD, LONDON.

THE genus *Dianthus* comprehends a family which have long been the pride of the florist, on account, as well of the agreeable fragrance they possess, as the beauty of their flowers; I allude to the Pink, with respect to which the old florists have justly observed, "he who can grow Pinks and Carnations can grow any florists' flower;" and I certainly agree with them in this case; as, from experience, I have found Pinks require more than ordinary care and attention to grow them to perfection. The object, therefore, I have now in view in addressing you, is to impart what knowledge I possess of their cultivation and general properties as show flowers.

In the first place, then, I would advise persons about commencing the cultivation of this most interesting flower to procure from some respectable grower a collection of the best sorts, as early in September as possible; and it is always advisable to have two pairs of each kind, to be able to plant them together, in small squares, thus:—

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The advantage obtained by this method is, that when in bloom they may be so readily covered with shade or glass, as deemed necessary; and it may be done so as to allow plenty of room for top-dressing the plants in spring. The bed should be so situated that it is sheltered from the north, and the composition forming it very rich. If the natural soil where the bed is intended to be formed is already fertile and light, I would recommend merely a good dressing of fresh loam

and rotten manure; but if poor and stiff, I advise such soil to be entirely removed to the depth of eighteen inches, and its place supplied by the top spit from a rich meadow, mixed with well-rotted cow manure, in the proportion of three to one. But before this is placed in the bed, it must be carefully searched, in order to destroy all grubs, which, at the season of the year alluded to, are very numerous and destructive. As a considerable number of plants may be cultivated in a small bed, they will amply reward if more than ordinary trouble is taken to prepare the bed; and in order to do that most suitably, I would recommend four or six inches of stones, or brick rubbish, to be placed at the bottom for drainage, Pinks always suffering more from wet than frost; I would also introduce one or two bushels of charcoal, after being steeped in a strong solution of guano or pigeons' dung. A bed thus prepared would be ready for the reception of the plants, which will be found to do best if planted in September, in the manner I have before described; they will, after this, require no further attention until February, when they must be top-dressed with some choice old manure, such as sheeps' or rotten cow-dung, mixed with a little pigeons' dung. In May, the plants will throw up their stems for bloom, which require particular attention properly to spindle them, as it is termed; that is, to remove all the weak and side blooms, so as to reduce the number left to one, two, three, or four, as the case may be; for instance, to produce an extra fine flower of such kinds as Enchantress, Tom Long, or Duke of Northumberland, there should be but one bloom left to a stem; while, on the other hand, such flowers as Rubens, Great Britain, and Hero of Croydon, require that three or four blooms be left on a stem, in order to weaken the individual bloom, which otherwise would be almost impossible it could expand without bursting the pod. At the time of these operations the stems should be tied to neat sticks, and when this is completed I give the whole bed a top-dressing, in the following manner: I procure a quantity of fresh cow-dung, and place it in a large tub, adding thereto a sufficient quantity of water to reduce it to a fluent substance, of such consistency, that when poured over the bed it disposes itself in a thick crust. The beneficial effect of this application is most distinguishable, and I will here observe, might not the same means be, with the greatest advantage, employed to promote superiority in other tribes of flowers?

As the earliest blooms begin to open, the most diligent attention will be requisite, because, as the pods swell, they must be tied, to prevent unequal expansion; with bass, or, what is better, rice-bag matting. Some of the thin podded kinds it is only necessary to tie once round, but the stout ones require tying as they swell; for, if tied too tight at first, they will burst in the sub-calyx. It is remarkable how soon the stout pods will burst, if not tied in time. In order to facilitate their opening, a plan generally adopted, is to ease the divisions of the pod with the point of a knife, which greatly assists them, as it will also to subdivide the calyx, or pod, into ten segments, instead of five.

Immediately a bloom unfolds two or three of the first, or guard petals as they are generally denominated; it will require to be placed on a card, in the usual manner, taking care that it goes on the pod sufficiently tight to support itself; in this stage the bloom can be greatly assisted by easing the petals as they are ready to expand with the point of the dresser.

In order to have blooms in the finest order for exhibition, it will be found necessary to shade the early ones to keep them back, and place glasses over such as are later to bring them forward. It is of little consequence what sort of shade is used; but the most simple is one with a tube in the centre, having a nut and screw attached; the tube goes on the stick, and the screw fastens it thereto; the same plan acts well also for glasses, and is a preventative against wind overturning them. Besides this, another admirable plan is now observed by many Pink growers, who use what is termed a table, which consists of a piece of wood something similar in shape to a child's battledore, with a hole in the handle to fasten to a stick going in the ground, or, in other words, to the leg of the table. In this table is a slit three inches long, and large enough to admit the stem of a Pink to its extremity; after which introduction the slit is filled up with moss or wool, to prevent earwigs or other insects from attacking the flower. In addition, this plan is not only secure, but very convenient; as a common garden pot placed on the table over the flower protects it as well from sun, wet, dust, wind, or insects. And if it is requisite to bring the flower forward, a small bell-glass, substituted for the pot, answers the purpose, and forces the bloom rapidly.

The usual period appointed when exhibitions of Pinks take place

is from the 18th to the 24th of June; and now it is that the careful grower anticipates his reward. In selecting a stand of blooms for show, he must therefore be cautious to have all the blooms dissimilar and, as much as possible, perfect in arrangement, bright in colour, and regular in lacing. The disqualifications are, a split pod, bass, or any other material being left on the pod, two blooms of a sort, a run petal, or a dropped petal.

To the cultivator, who has paid every possible attention in the management of his plants, the disappointment of gaining a prize by an oversight or misunderstanding is vexatious enough; he cannot therefore be too wary in placing his blooms.

Perhaps the fatal defects enumerated may not be fully understood by the young grower. I will briefly explain then that a split pod is when either division is run down to the sub-calyx; a dropped petal is when the guard petal has been eaten by an insect, or otherwise, so that it will not support itself; and a run petal is when no white is seen in the centre of the petal, or, in other words, when the lacing is run into the ground colour; in addition, as already observed, there must be no bass, card, or anything on the flower, when staged for exhibition.

As the propagation of the Pink by means of pipings is generally so well understood, I need not occupy any portion of this essay thereon; but, as it cannot be denied the various kinds now grown are very capable of improvement, I will observe, with respect to seedlings, for the particular encouragement of raisers, that I have found the plants seed much more freely when allowed to grow without any artificial treatment. It is advisable therefore to plant a bed of the best rose-leaved flowers solely for the purpose of producing seed; allowing them to grow as they like. As soon as the seed-vessel begins to open at the point, it must be gathered, and the seed permitted to remain therein until required for sowing, which should be in the month of March following. I have sown it as soon as ripe, but do not recommend the plan, as the plants seldom flower the following year; and when that is the case, they are exposed a long time without any advantage being gained. I advise the seed to be sown in a cold frame, and then the plants will be sufficiently strong to transplant into beds in May, where they will bloom the following year.

In conclusion, I beg to add a list of the names of the best kinds

with which I am acquainted; remarking by the way, however, that what I have hitherto been advocating is the cultivation of the Pink in the open ground; but there is no reason why they may not be cultivated in pots with advantage, similar to carnations, or even in a No. 12-sized pot six plants might be grown; I consider they would form a pretty feature at our exhibitions, supporting the collections of pot roses with much effect; and I hope the experiment will be tried, and liberal prizes offered by the horticultural societies for their production.

Neville's Enchantress.

———— John Dickson.

———— Aurora.

———— Duke of York.

———— Earl of Warwick.

———— Achates.

Buxton's John Bull.

———— George Allingham.

———— Gem Superb.

Fairbairn's Bob Lawrence.

———— Beauty.

———— Miss Kate.

———— John Buxton.

Henbrey's Rubens.

———— Quercus.

Turner's Masterpiece.

Hale's Queen of England.

Bragg's George Glenny.

Ward's Great Britain.

Wallace's Henry.

Hundsworth's Omega.

Garrett's Alpha.

———— Queen of Roses.

Hodge's Mellona.

———— Gem.

———— Mars.

———— Tom Thumb.

Hasting's Tom Long.

Jones' Miss Jones.

———— Huntsman.

Smith's John Hampden.

Headley's Duke of Northumberland.

Keynes' Colonel Baker.

Bunkle's Queen.

———— Lord Brougham.

Holmes' Coronation.

Kirtland's Gaylad.

———— Dr. Daubeney.

Legg's Prince Albert.

Pinder's Lady Hollywell.

Meade's Susannah.

Brown's Model.

———— Garland.

Otley's Dr. Edwards.

Hartstone's Prince Albert.

Sharp's Splendid.

Agate's Sir Robert Peel.

———— Hero of Croydon.

Cowdrey's Lord Calthorpe.

Cousin's Little Wonder.

———— Coronation.

Robinson's Blackheath Hero.

Ibbett's Triumphant.

Willmer's Elizabeth.

———— Tom Davey.

———— Queen Victoria.

ARTICLE III.

ON BOTANY APPLIED TO HORTICULTURE.

BY MR. TODD, DENTON GARDENS, LINCOLNSHIRE.

To expatiate upon the various ways to which botanical knowledge can be applied to the alleviation of our individual and social wants, or the gratifying of our peculiar tastes and inclinations, would be out of place here, and foreign, indeed, to my intention. Therefore, without dwelling upon the merits of botany as a source of intellectual amusement, as an elegant adjunct to a person's philosophical attainments, as an inducement to take fresh air and exercise, or as a means of creating a taste for rural scenery, by familiarising the mind with what is picturesque and beautiful, I shall pass on and merely treat of it as it can be practically applied to the advancement of horticultural science, and rendered a valuable auxiliary in the higher branches of gardening.

Botany furnishes us with a rich variety of vegetables; horticulture develops in the highest possible degree, their peculiar excellences. It is the province of botany to classify and describe the profusion of plants which compose the "vegetable kingdom," to furnish us with information respecting their local distribution on the earth's surface, the nature of the climate, soil, and situation in which they are usually found, with their time of flowering; it treats also of their medical and economical qualities, with the purposes to which they are generally applied by the natives of the countries in which they are indigenous. Thus we see that botany furnishes the scientific gardener with the requisite data upon which he may found a system of treatment most congenial to the local and constitutional peculiarities of any given species, whether indigenous or exotic. If he knows the principal characteristics of any particular order or genus he may not unfrequently form a good idea of its individual members, as regards their adaptation for ornamental, medical, or culinary purposes; and whether they are docile under cultivation, and susceptible of much improvement. Thus, in point of elegance, the natural order Ranunculacæ far surpasses that of Umbellifera; the members of the former are for the most part highly ornamental, and exhibit, under cultivation, a remarkable tendency to become double, as the beautiful foreign varieties of *Anemone*, *Clematis*, *Ranunculus*, *Pæonia*, &c.,

sufficiently prove, whereas, very few of the latter, though it contains some 800 or 900 species, are adapted for, and scarcely any of them (I believe), with the exception of the *Eryugiums* and *Physospermums*, rise above mediocrity as objects of decoration. Dr. Hooker, in his "Botany of the Antarctic Regions," speaks of "two fine kinds of *Anisotome*," as being indigenous to the Auckland Islands; and one of which (*A. latifolia*) is described as "one of the noblest of umbelliferous plants, attaining the height of six feet, and bearing umbels of rose-coloured or purplish flowers, each compound umbel being as large as the human head."—*Hort. Mag.*, vol. ii. p. 138. So also with respect to geographical distribution. The flora of some extensive regions often exhibit a peculiarity in their organization and external appearance, which, in some measure, points out their appropriate mode of culture. Thus, the majority of the flowering shrubs of New Holland are remarkable for a great delicacy in their roots and leaves, and for their neat and compact habit, as is seen in the Heaths, *Pimelias*, *Eutaxias*, *Acacias*, &c., of that country. The intelligent amateur in their culture therefore takes care to use those kinds of soil as have the least tendency to choke up their effeminate organs. Accordingly, a light sandy compost, and free drainage, with a pure atmosphere and moderate supply of water, is the course of treatment usually adopted. Those of America are for the most part quite the reverse of these; they are characterized by their strong growth and luxuriant foliage, and by a comparative coarseness of outline, as may be seen in some species of *Fuchsia*, *Gesnera*, *Alamanda*, and especially in those of the solanaceous kind, as the *Brugmansias*; light rich soils and copious watering, therefore, with an atmosphere highly charged with humidity, are the chief constituents in the development of these exuberant features. These must be understood as their usual characteristics and modes of treatment, and not as applicable to every individual case, because the variable surface of every country necessarily produces a corresponding variation in the character of its plants. Indeed, so greatly is the character of all kinds of vegetation modified by soil, aspect, latitude, altitude, meteorological phenomena, &c., that the careful study of these circumstances also becomes indispensable. A plant may have come from a more northern country than our own, and yet be unable to endure the severity of our winters without artificial protection. This

is the case with some of our beautiful Alpines whose winters in their native habitat is passed beneath the snow, and are, therefore, shielded from those sudden, and I may add, injurious changes of heat and cold, which they are necessarily subjected to in a climate so extremely variable as ours. So also a plant may be indigenous to a more southern country than this, and still find the full influence of our summer's sun too much for it. The *Nemophila* will serve as an example. I have seen a bed of *N. insignis* this summer dwindle away in a southern exposure where it last summer grew beautifully. And this is easily accounted for, and might have been prevented had its natural conditions of growth been studied. Every plant is adapted to grow in its own peculiar habitat; that of the *Nemophila* is a moist and shady one. Therefore, if it be compared with that of the bed alluded to, it will be perceived that the failure was no more than might have been anticipated; and the circumstance of its having done well in the same situation the preceding summer was the mere work of chance, resulting from the humid and general sunless character of that season, nearly resembling the character of its native locality.

More examples might be adduced in illustration of the utility of this department of botany (which is termed geographical) to the pursuits of the amateur, but it may be perceived from what has been said, that the careful study of it could not be other than highly advantageous, inasmuch as it would furnish him with a knowledge of those incidental circumstances which, under certain modifications, influence the growth of his plants; and the attentive observance of which would, in a great measure, obviate those failures and disappointments which are too often the only reward of his diligent though misdirected labours.

Should it not be thought inconsistent with the nature of the CABINET, in my next and two succeeding papers, I intend treating of Physiological or Structural Botany, with remarks touching its application to horticulture.

ARTICLE IV.

ATTRACTIONS OF THE ROSE.

BY ROSABELLA.

THIS beautiful flower has long been the admiration of all classes of society, and in every clime where it has displayed its floral beauties.

Sacred and other historians, as well as poets of every age, have lauded its beauties and perfume; and very lately having met with a page or two illustrative thereof, I transcribe them for insertion in the CABINET.

“ Fabulous authors account for the delicious perfume of the rose, by telling us that Love, in a feast of Olympus, in the midst of the gaiety of a light and lively dance, overthrew, with a stroke of his wing, a cup of nectar, which precious liquor falling on the rose, embalmed it with that heavenly fragrance which it still retains.

“ Mythological writers also relate that Rhodante, queen of Corinth, to avoid the pursuit of her lovers, fled to the temple of Diana to conceal herself; but being besieged by lovers, and obliged to appear, she called on the people for assistance, who, on beholding her beauty, threw down the statue of Diana, and declared her to be the goddess of the temple; upon which Apollo changed her into a rose.

“ The first rose ever seen was said to have been given to Harpocrates, the god of silence, to engage him not to divulge the amours of his mother Venus; and from hence the ancients made it a symbol of silence, and it became a custom to place a rose above their heads in their banquetting rooms, in order to banish restraint, as nothing there said would be repeated elsewhere; and from this practice originated the saying, ‘ under the rose,’ when anything was to be kept secret.

“ The Turks are great admirers of this beautiful flower, and Musselmans in general believe that it first sprang from the perspiration of Mahomet, on which account they will not suffer a rose leaf to lie on the ground, or permit any one to tread upon this sacred flower.

“ In the luxurious days of the ancients, even the warriors crowned themselves with garlands of roses during their principal repast; and Pliny tells us, their delicate meats were either covered with the

petals of these fragrant flowers, or sprinkled with its odorous oils. At a feast which Cleopatra gave to Antony, the royal apartments were covered with rose leaves to a considerable depth.

“The triumvir, when dying, begged of the captivating queen that she would scatter perfumes on his tomb, and cover it with roses.

“In Turkey, a rose is sculptured on the monument of all ladies that die unmarried; and in Poland they cover the coffins of children with roses, and when the funeral passes the streets, a number of these roses are thrown from the windows. Camden tells us, ‘There is a classical custom observed, time out of mind, at Oakley, in Surrey, of planting a rose tree on the graves, especially of the young men and maidens who have lost their lovers; so that the churchyard is full of them.’ It is the more remarkable, since it was used anciently both amongst the Greeks and Romans, who were so very religious in it, that we find it often annexed as a codicil to their wills (as appears by an old inscription at Ravenna, and another at Milan), by which they ordered roses to be strewed and planted over their graves.

“This ancient custom of decorating graves with flowers, the symbols of fleeting mortality, has almost passed from recollection in this country, and is rapidly disappearing in most parts of Wales; but we read in the ‘*Beauties of England*,’ that Thomas Stevens, a poor and aged man, who lies buried in the churchyard of the village of Stokenchurch, in Oxfordshire, left a request that his oldest son would annually dress his grave with flowers on the recurrence of the wake of St. Peter’s.

“The Mexicans, says the Abbé Clavigero, have from time immemorial studied the cultivation of flowers and odorous plants, which they employ in the worship of their gods; and in the temple of the true God the high priest was formerly crowned with roses. The Catholic church has still preserved the use of these flowers in its most sacred ceremonies, as it is always the rose that they strew before the holy sacrament in solemn processions.

“There is now to be seen at Rome, in the church of St. Susan, an old Mosaic, which represents Charlemagne kneeling, receiving of St. Peter a standard covered with roses. The custom of blessing the rose is still preserved at Rome, and the day is called *Dominica in rosa*. They make in that city artificial rose trees of pure gold,

which are blessed by the Pope on the first Sunday in Lent, while they sing *Lætera Jerusalema*, and which after mass he carries in procession, and then sends it to sovereigns, or presents it to princes who visit his capital; and it was the custom until about these last forty years, for the prince who received this rose tree, to give a sum equal to five hundred pounds to the person who brought him this present from the pope; but the rose tree itself was worth twice that sum.

“Pope Julius the Second sent a consecrated rose of gold, dipped in chrism, and perfumed with musk, to Archbishop Warham, to be presented to Henry the Eighth, at high mass, with the apostolical benediction. The king received the precious rose, and more precious benediction, with profound reverence and excessive joy. But every body knows how soon the remembrance of this rose faded with this capricious monarch.

“Mary Stuart, queen of Scots, sent a magnificent rose tree to Rosnard, the French poet of the sixteenth century, which was valued at two thousand crowns, with this inscription: *Rosnard, l'Apollon de la Source des Muses*.

“Bayle relates an accident which happened at the baptism of Rosnard. In those days it was customary to bring large vases full of rose water and baskets of flowers to christenings; and as the nurse was going to church with the infant bard, she let her flowers fall, and in turning to recover them, she touched the attendant who carried the vase of rose-water, and spilt it on the child; and this, says Bayle, was since regarded as a happy presage of the good odour that would some day scatter his poetry.

“Painters represent St. Dorothy holding a nosegay of roses, because it is told in her life that an angel gave her a bunch of roses; and a prodigy is related of St. Louis the Ninth of France. It is pretended that a rose was seen to come out of his mouth after his death.

In the abbey of St. Croix, at Poictiers, they show a pillar that was raised to commemorate a pretended miracle, and where they tell you a rose tree in full blossom sprung out of the grave of a young man after the day of his interment. It is truly shocking that the teachers of Christianity should countenance such absurd superstitions. We could enumerate many others coupled with the rose;

but we are more anxious to give space for an account of the agreeable use to which this flower was put by St. Medard, who about the year 530, instituted the most affecting prize piety has ever offered to virtue. It was a crown of roses for that villager's daughter who was the most modest, most obedient to her parents, and the most discreet. The first rose tree was his own sister, whom he crowned in the church of Salency.

"We cannot pass over unnoticed the well-known story of the rose leaf, which shows how fond the Eastern nations were of conveying their thoughts by hieroglyphics.

"At Amadan there was a famous academy, the rules of which were, that the members of it should think much, write little, and speak as seldom as possible. Zeba, a learned doctor, celebrated all over the east for his great knowledge, hearing of a vacancy in this institution, hastened to the city in order to be elected. Unfortunately he arrived too late, for the place had already been filled by a candidate, who, like many in those times, owed his success more to his power than to his deserts. The president of the academy filled a vase so full of water that an additional drop would make it run over, by which the doctor was to understand that their society was too full to admit of another member.

"The learned Zeba was retiring sorrowfully, when by chance he perceived a petal of a rose at his feet, which he seized with promptness, and placed so delicately on the top of the water, that it did not disturb it in the least. This ingenious allusion was received by the assembly with the greatest approbation, and the academicians testified by their unanimous applause, their consent to the reception of the illustrious Zeba as a member of their mute society."

ARTICLE V.

THE METROPOLITAN FLORAL EXHIBITIONS.

ROYAL SOUTH LONDON SOCIETY, *May 21.*

THIS was the second meeting of this society for the present season, and was held in the Surrey Zoological Gardens.

A number of very well grown specimens of stove and greenhouse plants were produced in the various collections; but as we have

already particularized similar specimens at previous exhibitions, our remarks on this occasion will be directed to the florists' flowers, of which a considerable number are generally brought to these shows.

The principal feature in this meeting was the TULIPS, which, bearing the very unfavourable season in mind, we did not anticipate the gratification their inspection gave us. The collection to which the first prize was awarded came from Mr. Hunt, of Wycombe, and surpassed any that we have seen for some time. It was composed of *Bijou des Amateurs*, byb.; *Holmes's King*, byb.; *Catalani*, ro.; *Ulysses*, byb.; *Aglaia*, ro.; *Asteria*, biz.; *Violet Blondeau*, byb.; *Polyphemus*, biz.; *Princess Charlotte*, byb.; *Vestris*, ro.; *Triomphe Royale*, ro.; and *Fabius*, biz.: the two latter grand blooms. The Hon. and Rev. R. Wilson, of Ashwelthorpe, near Norwich, obtained the second prize, for the stand which the day before received the first prize at the Royal Botanic Society's show, and of which we gave the names in our last. The third prize was given to Mr. Reeves, for *Surpass Polyphemus*, biz.; *Invincible (Franklin's)*, byb.; *Triomphe Royale*, ro.; *Optimus*, biz.; *Rubens*, byb.; *Claudiana*, ro.; *Polyphemus*, biz.; *Albion*, biz.; *Lord Byron (Franklin's)*, biz.; and three others which we did not recognise, and the names were so badly written, we could not make them out. A fourth prize was awarded to Mr. Edwards, of Holloway, whose collection comprised *Roi de Siam*, byb.; *Triomphe Royale*, ro.; *Selim*, biz.; *Platoff*, biz.; *Roscius*, byb.; *Athalia*, ro.; *Alcon*, byb.; *Cato*, biz.; *Washington*, byb.; *Polyphemus*, biz.; *Rose Brillante*, ro.; and *Ponceau très Blanc*, ro. Besides these, three other collections were shown, to which no awards were made. In the nurserymen's class the first prize was given to Mr. Bushel, of Kennington, for *Aglaia*, ro.; *Reine de Sheba*, byb.; *Polyphemus*, biz.; *Claudiana*, ro.; *Lord Hawke*, byb.; *Platoff*, biz.; *Triomphe Royale*, ro.; *Triomphe de Lisle*, byb.; *Optimus*, biz.; *Van Dajkin*, ro.; *Rubens*, byb.; and *Junius Brutus*, biz.

To Messrs. Norman, of Woolwich, was voted the second prize, for *Royal Albert (Norman's)*, byb.; *Matilda (Mason's)*, ro.; *Lord Bloomfield (Ellis's)*, biz.; *Maria (Goldham's)*, ro.; *Rubens*, byb.; *Charbonier Noir*, biz.; *Prince of Wales (Norman's)*, byb.; *Optimus (Hutton's)*, biz.; *Claudiana*, ro.; *Polyphemus*, biz.; *Triomphe Royale*, ro.; and *Roi de Siam*, byb. The third prize was given to

Mr. Batten ; but we saw nothing novel amongst his flowers ; the best was a splendid *Triomphe Royale*. There were also many other stands shown, not for competition, which we omit.

The collections of *HEARTSEASE* were numerous. Mr. Turner, of Chalvey, received the first prize in the nurserymen's class, for King's Seedling, Dido, Optimus, Prior, Juno, Euterpe, Novelty, Star, Duke of Wellington, Advancer, Regulator, Isabella, Duke of Beaufort, Subelegans, Azurea, Duke of York, Ne Plus Ultra, Seedling Exquisite, Hero of Bucks, Mary Jane, Perseus, Eliza, Hunt's Wellington, Diamond, Daughter of St. Mark, Delight, President, Eclipse, Jehu, Arethusa, Hannibal, Yellow Defiance, Pitho, Tom Pinch, Imogine, Companion, Victory, Hamlet, Negro, Mary Anne, Seedling, Prince Royal, Caractacus, Pizarro, Titus, Curion, and Pelops. The second prize was obtained by Mr. Thomson, of Iver, with Malibran, Sol, Crimson perfection, Duchess of Rutland (Thomson's), five, Pizarro, Regulator Superb, Queen of the Whites, Sun-set, Alba Perfecta, Juno, Medora, Snowdrop, Cassandra, Isabella, Regulator, Augusta, Constellation, Mulberry Superb, Curion, Sulphurea elegans. Patriarch, Euclid, Jehu, Conquering Hero, Prince Albert, Warwick, Adorner, Caractacus, Pompey, Acme, Conservative, Fair Maid, Goliath, Mary Ann, Sappho, Desdemona, Montem, Dido, Queen Dowager, Queen of Iver, and some seedlings. Stands were also produced by Mr. Cutter, of Slough ; Mr. Henbrey, of Croydon ; and Mr. Agate.

In the amateurs' division Mr. Hunt, of Wychcombe, was first, with Regulator, Victory, Curion, Grotius, Eclipse, Exquisite, Tom Pinch, Hunt's Wellington, Buxton's Ne Plus Ultra, Hamlet, Hooper's Wellington, Purity, Pizarro, Mary Jane, Duke of York, Hero of Bucks, Hannibal, Montem, Mulberry Superb, Isabella, Dido, Plough-boy, Goliath, and Baroness Wenman. Mr. Hall, of Enfield, was second, with Hall's Emperor, Rainbow, Red Rover, Enfield Hero, and Black Drop ; Attwell's Princess Royal ; Brown's Curion and Arethusa ; Collison's Vulcan ; King's Exquisite and Mary Ann ; Turner's Optimus ; Miller's Defiance ; Thompson's Montem, Dido, Eclipse, Regulator, and Pizarro ; Hooper's Mary Jane ; Mountjoy's Victory ; Cook's Black Bess, Cloth of Gold, Isabella, and Beauty of Ailesbury. Third and fourth prizes were awarded respectively to Mr. Edwards, of Holloway, and Mr. Hale, of Hillingdon, besides whom there were five or six other competitors.

The exhibition of GERANIUMS was not great, but the plants testified very excellent management. In the amateurs' class the first prize was awarded to R. Hudson, Esq., of Clapham, for eight varieties of finely-grown plants in great perfection: they were Duke of Cornwall, Hebe, Alice Grey, Comte de Paris, Madeline, Marchioness of Lothian, Erectum, and Unit. The second prize was given to Mr. Foster, of Paddington, for Duke of Cornwall, Erectum, Duke of Wellington (Staines), Adonis, Ackbar, Marchioness of Lothian, Sunbeam, and Sir R. Peel. In addition, an additional first prize was given to Mr. Parker, gardener to J. Houghton, Esq., for Comte de Paris, Caroline, Priory Queen, Coronation, Mabel, Superbe, Duke of Cornwall, and Master Humphrey. In the nurserymen's class Mr. Gaines, of Battersea, was first, and Messrs. C. D. Smith and Co., of the same place, second: the former showed fine specimen plants of Pride of Surrey, Albina, Lady J. Douglas, Nymph, Lady Sale, Rising Sun, Una, Erectum, Matilda, Sylph, Excelsa, Pilot, and Ackbar; and the latter had Queen of Beauties, Hebe, Sylph, Coronation, Duke of Cornwall, Cleopatra, Fair Maid of Devon, Queen of the Fairies, Mrs. Stirling, Madeline, Vanguard, and Lady Sale.

Of SEEDLINGS, a first-class certificate of merit was adjudged to a tulip produced by Mr. Scarnell, but to which no name appeared to be given. It has a well-formed cup, with smooth edges; the white is pure, the feathering broad and uniform, and of a bright rich rose colour.

Of Geraniums few were shown, and only two certificates awarded: one for Hoyle's Mount Etna, and second for Miller's Vulgais. Of Heartsease a number were shown, and certificates given to Mr. Thompson, of Iver, for Satirist and Duchess of Rutland; the latter a very distinct variety, the colours being deep lilac and white, and the shape good, the petals being well rounded, firm, and smooth on the edges. Satirist we described last month, in page 206. Mr. Hall, of Enfield, likewise received a certificate for Rainbow, a dark velvety flower, with a deep blue centre, of remarkably smooth and even texture, and excellent shape. Of Fuchsias and Petunias several were exhibited, but none deserving particular attention.

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ALLOPLECTUS REPENS. THE CREEPING. (Bot. Mag. 4250.) Gesneriaceæ. *Didynamia Angiospermia*. Mr. Purdie discovered it in the ascent of the Sierra Nivadi, St. Martha, growing in damp woods. He sent it to the royal gardens of Kew. It is a small shrubby plant with trailing stems. The flowers are tubeformed, an inch long, yellow tinged with red. The limb is four parted, spreading. The calyx is large, green, blotched with purple, and the footstalk, an inch long, is also purple. It is a hothouse plant.

ANGULO RUCKERT. Mr. RUCKERS. (Bot. Reg. 41.) Orchidaceæ, *Gynandria Monandria*. Mr. Linden discovered this plant growing in the ground, in low bottoms in the midst of forests in Venezuela. The flowers are large, each being three inches across, yellow spotted numerously with crimson, and having a rich deep crimson lip. It is very interesting and beautiful.

ASYSTACIA COROMANDELIANA. THE COROMANDEL *ASYSTACIA*. (Bot. Mag. 4248.) (Synonym *Ruellia secunda*, R. obliqua, *Justicia Gangelica*.) A native of India, and has bloomed in the collection of the royal gardens of Kew, in the stove. It is somewhat shrubby, branching. The flowers are produced in racemes of from six to ten flowered. The corolla has a funnel-shaped tube about an inch long, pale green, sprinkled with purple; the limb large, five-parted, deep lilac, with dark spots. The spreading limb is about an inch and a half across. It blooms very profusely in autumn, and is a valuable ornament at that season, well meriting a place in every collection of hothouse plants. It is a very likely plant to flourish even in the greenhouse.

BEAUFORTIA SPLENDENS. THE SPLENDID. (Pax. Mag. Bot.) Myrtaceæ, *Polydelphia Pentandria*. A native of New Holland, an evergreen greenhouse shrub, low, branching. The flowers are produced in short clusters, a rich scarlet, very showy and beautiful. This class of plants, *Beaufortias*, *Melaleucas*, *Calothamnus*, &c. highly merit a place in the greenhouse, being very interesting and beautiful.

CENTROPOGON SURINAMIENSIS. (Pax. Bot. Mag.) Lobeliaceæ, *Pentandria Monogynia*. A native of Surinam. It forms a dwarf compact bush, producing numerous heads of bright rosy-pink coloured flowers, each about two inches long. It is known in some of our collections as *Lobelia surinamensis*, *L. spectabilis*, and *Siphocampylus spectabilis*. It blooms for a long period, and flourishes in a stove or greenhouse.

CLEMATIS HEXASEPALA. SIX-PETALLED VIRGIN'S BOWER. (Bot. Reg. 44.) Ranunculaceæ, *Polyandria Polygynia*. A native of New Zealand, a little twining plant. The flowers are small, pale-green, very sweet-scented and are produced in threes or fours from the axils of the leaves. It is a hardy greenhouse plant, and blooming very freely, also sweet-scented, well deserves to be in every one. It is in the collection of the Horticultural Society at the Chiswick gardens, where it bloomed profusely in the spring.

COLLANIA ANDINAMARCANA. (Bot. Mag. 4247.) Amaryllideæ, *Hexandria Monogynia*. Collected by Mr. Matthews on the lofty mountains of Andinamarca in Peru. It is a tall straggling plant, and no doubt in its native situa-

tion is a climber. The flowers are produced freely, in large drooping umbels, pendant, pale, yellow, tipped with green, and streaked with brown. Each blossom about three inches long.

FRIESIA PEDUNCULARIS. JOINTED—pedicelled. (Bot. Mag. 4246.) Eleocarpa. Dodecandria Monogynia. It is a native of Van Dieman's Land, and requires to be grown in a greenhouse or cool frame. In the warmer parts of England it appears very likely to thrive in the open air. It is a myrtle-like shrub, growing four to five feet high, bearing a profusion of bell-shaped drooping flowers, on erect shoots, white with orange spots at the base. Each flower is about three quarters of an inch across. It is a very neat and pretty plant.

GARDENIA FLORIDA, var. FORTUNE. Mr. FORTUNE'S. Mr. Fortune sent this plant from the north of China to the Horticultural Society, and it has bloomed in the Chiswick garden. The flowers are white, double, changing to light buff as they go off. Each blossom is about four inches across, and much like a good sized double white Camellia. They have a delicious fragrance. It is one of the finest shrubs in cultivation.

IXIOLIRION MONTANUM. MOUNTAIN IXIO LILY. (Pax. Mag. Bot.) Amaryllidaceæ. Decandria Monogynia. Bulbs of this beautiful spring-flowering lily have been sent by Colonel Sheill from Teheran, in Persia, where it inhabits the hilly districts. It is a scarce, hardy, bulbous plant, highly ornamental. The flowers are produced in umbels of from six to eight in each. A separate flower is about two inches long and as much across. The six petals are each about a quarter of an inch broad. They are of rich blue colour. It is in the collection of Messrs. Knight and Perry, of the Chelsea Nursery.

ODONTOGLOSSUM CORDATUM. CORDATE-LIPPED. (Pax. Mag. Bot.) Orchidaceæ. Gynandria Monandria. Imported from Mexico by George Barker, Esq., of Birmingham. The flowers are produced in long racemes. Each blossom is near three inches across. Sepals green, with brown stripes. Petals and labellum pale sulphur, with brown stripes.

RUELLIA LILACINA. LILAC-FLOWERED. (Bot. Reg. 45.) Acanthaceæ. Didynamia Angiospermia. The flowers are produced solitary along the shoots. The tube is a dark red. The five-parted limb a pretty rose. Each flower about an inch and a half across.

TROPEOLUM CRENATIFLORUM. NOTCHED-PETALLED. (Bot. Mag. 4245.) Tropeolææ. Octandria Monogynia. Sent from Peru by Mr. Lobb to Messrs. Veitch's. It is a long straggling and climbing plant. The flowers are a bright yellow, with a few short dark streaks upon the two upper petals. Each blossom is about an inch and a half across. The plant is hardy during the summer. It is much in the way of *T. Lobbianum* as to habit.

NEW PLANTS SEEN AT NURSERIES, &c.

The Royal Gardens at Kew Palace.—**CUPHEA STRIGOLISSIMA.** The flowers are red and yellow; very neat and pretty.

GLOXINIA CITRINA. The tube outside pretty flesh colour, and a distinct rosy circle around the mouth, margined with white. The inside of the tube is nearly white.

BEGONIA UNDELATA. The flowers are very pure white, produced in pendant, spreading, branched racemes. The foliage is of a lively green, and the flower stems rise about two or three feet high. It is a lovely species, and well deserves a place in every hot-house.

CHIRITA ZEYLANICA. The flowers are in form and size much like a *Gloxinia*, of about half the usual size. The outside is a pretty violet-purple, and the inside white. It blooms very freely, and well merits cultivation.

ACHIMENES PATENS. The flowers are of a rich rosy-violet, having a whitish centre, with a wide dark crimson throat, and a spur similar to the larkspur. It is very neat and handsome.

ACHIMENES ILLICIFOLIA. HOLLY-LEAVED. We understand this new species has not yet bloomed in this country.

ACHIMENES ATRO-SANGUINEA. This is another very distinct and handsome new species.

ACHIMENES, var. *FORMOSA*. This variety is much in the way of *A. rosea*, but the flowers are of a much higher rose colour. It is likely to have been raised between the *A. rosea* and *A. coccinea*.

GLOXINIA TUBIFLORA ROSEA. The very long-tubed flowers are of a handsome rose colour, and contrasts very beautifully with the pure white ones of *G. tubiflora alba*.

SIPHOCAMPYLUS. A new species not yet bloomed, but highly spoken of.

HOYA PARASITICA and *HOYA MOLLIS*. Both new, not yet bloomed.

GESNERA HERBERTIANA. Flowers are green and yellow, beautifully freckled. Very interesting, and blooms freely.

BEGONIA FUCHSIOIDES. This is a very distinct species of this very pretty tribe. Not yet in bloom.

MIMOSA. A new species, which is an aquatic, and will be both in beauty of foliage and flowers, an interesting addition to the water plants.

ECBITES MELALEUCA. Not yet bloomed. The mid-rib of the leaf is very broad, and a distinct clear white, which, in contrast with the dark green, has a pretty effect.

GARDENIA BOWERIANA. A new species not yet bloomed, but highly spoken of.

At Messrs. Low, and Co.—*VERNONIA AXILLARIS*. With fine heads of blue flowers, which afterwards become a very pale colour.

SIPHOCAMPYLUS NITIDA. A new, and said to be a very handsome species.

IPOMÆA. A new species sent from Bornea, by Mr. Low, junior. The flowers are said to be of a rich golden yellow. It is a very valuable addition to this lovely class of plants.

At Mr. Groom's.—*LILIUM SPECTOSUM*, and the varieties, were in most vigorous and profuse bloom. There were many growing in large pots; several bulbs had been planted in one pot, and the flower stems six or seven feet high, each having eight or ten flowers, produced a fine display. The entire stock, consisting of hundreds, was in first rate condition. Mr. Groom had planted out bulbs in the open bed, amongst the common garden lilies, and they have succeeded most admirably, blooming beautiful.

LONDON HORTICULTURAL SOCIETY, REGENT STREET, July 7.—Although the subjects produced on this occasion were not numerous, a circumstance no doubt owing to the proximity of the large exhibition at Chiswick, some of them were not devoid of interest. Foremost among them may be mentioned a cut specimen of the Clove tree (*Caryophyllus aromaticus*), from the garden of the Duke of Northumberland, at Sion. This remarkable tree, on account of the difficulty of keeping it alive, is still comparatively rare in this country. At Sion, however, it is found to succeed well planted in Norwood loam and sand, in which it was mentioned the Mangosteen and Nutmeg likewise thrive. The specimen exhibited bore large shining pale-green leaves, and had on it several of its fragrant coriaceous flower-buds, which are the Cloves of merchandise; the corolla forming a ball or sphere on the top between the teeth of the calyx; thus, with the narrow base or germen tapering downwards, giving the appearance of a nail, and hence in French the name *Clou* from which the English Clove is evidently derived.—From the same garden were also two plants of *Evolvulus*, with pretty blue Anagallis-like flowers, one was named *cœruleus*, the other *purpureo-cœruleus*, the deeper blue of the latter distinguishing it advantageously from the former, which is much paler. They were found by Mr. Purdie on dry rocks near the sea in Jamaica. A Knightian Medal was awarded for the Clove tree.—Messrs. Whitley and Osborn, of Fulham, sent the new *Calystegia pubescens* or double Bind-weed, one of Mr. Fortune's valuable importations from China; and Mr. Low, of

Clapton, a rosy-pink flowered *Stylidium*, apparently *S. scandens*.—From Mr. Cuthill, of Camberwell, were cut bunches, and a plant of his Prince of Denmark scarlet Glove Carnation, a brilliant coloured, very fragrant, hardy, border variety, together with bunches of other Picotees and Carnations of less moment.—Very fine boxes of the best sorts of Picotees and Carnations, for which a certificate was awarded, also came from Mr. Norman, of Woolwich.—Messrs. Veitch and Son, of Exeter, sent a small *Hydrangea*, from Java, said to be *Otaksa*, but which, if not identical with *japonica*, did not essentially differ from that species. Of plants from the Society's Garden, were *Epidendrum alatum*; the well-known *Oncidium Wentworthianum*; the lovely new *Achimenes patens*, recently received from Mr. Hartweg; also *A. grandiflora*, from which the former differs in many respects, but especially in the flowers being of a much deeper colour, and in the leaves being smaller and smooth; two species of *Gloxinia*; the useful blue-flowered *Plumbago capensis*; *Chironia floribunda* and *frutescens*; *Sinningia guttata*; and cut specimens of *Buddlea Lindleyana*, one of Mr. Fortune's first importations from China, which, if not altogether hardy, has been proved to be at least as hardy as a *Fuchsia*.

LONDON HORTICULTURAL SOCIETY, August 4.—In consequence of the glass lantern of the meeting room having been destroyed by the hail-storm of Saturday no meeting took place, as was duly advertised in the daily papers; nevertheless several things well deserving of notice, having been sent from the country, we give the following account of some of the most remarkable among them. From Messrs. Veitch and Son, of Exeter, was a cut specimen of a new *Leschenaultia*, which has been named *L. splendens*; but which is, perhaps, *L. laticina*. From the same nursery was also *Pleroma elegans*, a very fine deep purple-flowered greenhouse shrub, with shining evergreen leaves, it had been found on the Organ Mountains, at an elevation of 6000 feet. The flowers continue open for several days.

CARNATIONS AND PICOTEEs.—As some of our readers may be desirous, at the approaching season of taking off layers, to add to their collections some first-rate kinds, we insert the list of those shown at the exhibition at the Chiswick Gardens on July 11, and which comprise a superb variety of these beautiful flowers; 4 trays of Carnations, containing 24 blooms each, contributed by Messrs. Turner, Norman, Ward, and Dickson, were perhaps never seen in greater perfection. The Picotees also, which are annually improving, received with the Carnations their meed of admiration from the visitors. For Carnations in pairs of 24 distinct varieties, in the Amateurs' Class, a certificate was awarded to Mr. Ellis, of Woolwich. In the Nurserymen's Class, the large Silver Medal was awarded—1st, to Mr. Turner, of Chalvey; 2nd, to Messrs. Norman, of Woolwich. The collection from the former contained Mansley's Shakespeare, Keller's Prince Albert, Hufton's Miss Thornton, Young's X. X., Addenbrook's Lydia, Sealey's Princess Royal, Brooks's Flora's Garland, Hepworth's True Briton, Seeding, Puxley's Princess Royal, Barnard's Duke of Roxburgh, Elliot's Rainbow, Hale's Prince Albert, Hale's Lady of the Lake, Ely's Lord Pollington, Mansley's Beauty of Woodhouse, Tomlyne's Briseis, Mansley's Bonny Bess, Ely's Duke of Bedford, Hufton's Rosea, Hogg's Epaminondas, Fletcher's Lord Anson, Puxley's Prince Albert, Brown's Duke of Gloucester. Messrs. Norman's stand showed Tomlyne's Rainbow and Briseis, Willmer's Telemachus, Conquering Hero, and Duchess of Kent, Ely's John Wright, Lord Pollington, Duke of Bedford, Lord Milton, and King of Scarlets, Puxley's Princess Royal, Sharp's Defiance, Pollard's First-rate, Rainford's Game Boy, Jaques' Georgiana, Mansley's Beauty of Woodhouse, Pearson's Lady Loudon, Sealey's Princess Royal, Malpas' Mary Anne, Barnard's Duke of Roxburgh, Elliot's Duke of Sutherland, Brabin's Squire Meynell, Hale's Prince Albert, Mansley's Robert Burns. Silver Knightian: 1st, Mr. Ward, for Wilson's William IV., Fulbrook's Grenadier, Hufton's Rosa, Ely's Duke of Bedford, Lady Ely, Lord Milton, Regulator, and Prince of Nassau; Smith's Mrs. Betts, Brooks's Flora's Garland, Willmer's Conquering Hero, Cartwright's Rainbow, Ward's Lady Sarah Payne,

Calcott's Brutus, Puxley's Princess Royal, Browne's Bishop of Gloucester, Braby's Squire Meynell, Ely's Hugo Meynell, Ward's 188, Beauty of Cradley, and Roi du Capucin; Hodges's Bright Phœbus, Ely's Mango, and Ray's Prima Donna. Mr. Dickson, to whom the same award was given, showed Puxley's Queen of Roses, Ely's Lady Ely, John Wright, and Lovely Ann; Chadwick's Brilliant and Flora, Barrenger's Apollo, Jaques' Georgiana, Maud's Rowton, Franklin's Queen of Hearts, Brooks's Flora's Garland, Iron's Defiance, Tomlyne's Briseis, Strong's Eather and Duke of York, Hale's Prince Albert, Prince de Nassau, Jaques' Iris, Wood's William IV., Hodges's Bright Phœbus, Hughes' Vesta, Elliot's Duke of Sutherland, and Smith's Superb. A certificate was awarded to Mr. Griffin, of Uxbridge, for his collection.

For PICOTEES, in the Amateurs' Class, the large Silver Medal was awarded to G. Edmonds, Esq., of Wandsworth, for a splendid collection of 24 blooms; these consisted of Edmond's Ernest, Augusta, Eliza, Beauty, Mrs. Reeves, and Prince of Wales; Gidden's Teaser, Burroughes's Fair Ellen and Miss Jane, Jessop's Sir William Middleton, Dickson's Mrs. Trahar and Bride, Barrand's Borderer, Wood's Queen Regina, Ely's Mrs. Fenton, Matthews' Enchantress, Mrs. Barnard, Crask's Queen, Cook's Unique, Willmer's Princess Royal, Barraud's Borderer, Kirtland's Princess Royal. The Silver Banksian was awarded to Mr. Ellis, of Woolwich, for his collection. In the Nurserymen's Class the large Silver Medal was taken by Mr. Turner, his tray containing the following 24 varieties: Matthews' Ne Plus Ultra and Enchantress, Burroughes's Mrs. Bevan, President, Lady Alice Peel, and Miss Jane; West's Fair Ellen, Brinkler's Purple Perfection, Crask's Victoria, Crouch's Ivanhoe, Mrs. Barnard, Coster's Matilda, Wood's Princess Alice, Gidden's Miss Desborough, Robinson's Nottingham Hero, Wildman's Isabella, Ely's Favourite, Wilson's Fanny Irby, Green's Victoria, Mansley's Nulli secundus, Tolworthy's Isabella, Sharp's Invincible, Willmer's Princess Royal, and Sharp's Duke of Wellington; 2nd, the Silver Knightian Medal to Messrs. Norman, for Jessop's Sir W. Middleton, Willmer's Agnes and Princess Royal, Kirtland's Camilla, and Princess Augusta of Cambridge, Wildman's Isabella, Crask's Queen Victoria and Prince Albert, Sharp's Gem, Barnard's Mrs. Barnard, Wood's Princess Alice, Cook's President, Barraud's Cornelius, Burroughes's Emma, Miss Jane, Mrs. Bevan, and President; Green's Queen Victoria, Barraud's Borderer, Morris's Madeline, Ely's Mrs. Lily, Crouch's Ivanhoe, Hudson's Emperor of Russia, Bennett's Nonpareil, and Crask's Prince Albert; 3rd, to Mr. Dickson, for Trahar's Matilda and Rosalind, Wilson's Fanny Irby, Dickson's Mrs. Trahar, Mr. Trahar, Ely's Favourite, and Field Marshal, West's Matilda, Edmonds' Prince of Wales, Wildman's Isabella, Burroughes's Duke of Newcastle, Cook's President, Sharp's Hector, Red Rover, and L'Elegant, Gidden's Sir R. Peel, Green's Queen Victoria, John's Prince Albert, Matthews' Enchantress, Brinkler's Lord Althorp, Mrs. Barnard, Crask's Queen Victoria, Willmer's Princess Royal, Wilson's Miss F. Irby, Jessop's Sir W. Middleton; 4th, the Silver Banksian to Mr. Ward for Burroughes's Lady Jane, President, Duke of Newcastle, Mrs. Bevan, and Miss Osborne; Garrat's Lady Dacre, Matthews' Enchantress, Green's Queen Victoria, Crask's Queen Victoria, Musson's Charlotte, Wood's Queen Victoria, Brooks's Duchess of Cambridge, Willmer's Princess Royal and Joan of Arc, Ely's Dr. Horner, Wilson's Fanny Irby, Jessop's Sir W. Middleton, Barraud's Bride, and Cornelius Hudson's Emperor of Russia, Crask's Prince Albert, Hogg's Miss Campbell, Wildman's Isabella, and Burroughes's Mrs. Flower. A tray of yellow-ground Picotees was exhibited by the Messrs. Norman, showing the improvements which are in progress in this class. A certificate was awarded to G. Edmonds, Esq., for a Seedling Picotee, named Mrs. Reeves, a flower of good properties, a heavy-edged rosy red.

ON VINES IN A PLANT STOVE.—A Young Subscriber is desirous to know how he can grow Vines properly and stove plants in the same house. I am afraid the watering of the plants will be prejudicial to the ripening of the fruit, and to suit the fruit by withholding water from the plants would injure them. How should I treat *Ruellia multiflora*, and *Begonia floribunda*, to grow and bloom them successfully.

[The Vines should not be allowed to spread entirely over the plants to the exclusion of the light, but two feet and a half at least up the centre of each sash should be free; this being the case, if the Vines be properly managed, as well as the plants, they will succeed satisfactory. The best and finest crop of grapes we ever saw were produced under similar circumstances. The two plants, having a liberal drainage, and a rich light loamy soil, flourish in a stove with the ordinary treatment. The Ruellia is liable to be attacked by the red spider. Dip the head of the plant in strong soap suds occasionally it will remedy that pest.]

TO PRESERVE WALL-NAILS FROM RUSTING.—Heat them quite hot on a fire-shovel (they must not be red-hot), and then drop them into a glazed flower-pot saucer half filled with train-oil. Thus prepared, they never rust, will last for many years, and it is said the effluvium from the oil keeps insects from the trees. The nails should remain some hours in the oil.—*Gardeners' Chronicle*.

ON BUDDING ROSES.—On rose-budding, I repeat, what I wrote and was inserted in a former number, leave a small portion of wood with every bud, or, this dry season especially, the buds will shrivel, without much attention. White worsted is superior to matting for tying up with. The buds succeed far better when so secured. I occasionally have my buds, after being newly inserted, sprinkled over at the evening with soft water. This done for a week or two, is rendered very beneficial.

Rosa.

ON CULTURE OF VERBENAS IN POTS.—Having duplicates of nearly every new variety of Verbenas, I resolved to grow one plant of each, in pot culture, and the others in the open bed. As early this spring as I could obtain the plants, I potted them into well drained pots of two inches, broken pot, and covered that an inch with chopped turf. The compost was turfy loam, obtained last autumn, and had been laid in heap and well mixed with rotten cow manure, the whole turned over twice during winter. To this was added one-third of old rotten manure, and a good sprinkling of white sand. The leading shoot of each plant was stopped at six inches high, to induce the production of laterals. On pushing, the top one was trained upright, and when it had got six inches more topped again, and so proceeded with, till now they are two feet high. As the side shoots extended, I stopped them at each six inches, and they are now half a yard in diameter at the bottom, with the interior well filled up, forming fine bushes. All the ends are now clothed with a show for bloom, and no doubt will produce a mass of bloom. I re-potted the plants into a size larger about the middle of May. I had the plants placed in a hot-bed frame, and which afforded me a sufficiency of heat, and I had the opportunity easily to give what air was necessary to prevent them being drawn up weakly. In order, too, to have a due circulation of air around the plants, I placed the pot in which the plant was upon an inverted garden-pot, and thus elevated, the plants grow quite uniform. They are free from red spider, and quite vigorous. I syringed the plants over head three or four times a-week. This attention to pot culture, of so lovely a tribe, will repay me most amply, and a splendid show will be furnished to the end of the season. I placed the plants on my greenhouse stage the first week of July.

Kent, July 21st.

FLORA.

NEW HOLLAND SCENERY.—The extreme uniformity of the vegetation is the most remarkable feature in the landscape of the greater part of New South Wales. Everywhere we have an open woodland, the ground being partly covered with a very thin pasture, with little appearance of verdure. The trees nearly all belong to one family, and mostly have their leaves placed in a vertical, instead of, as in Europe, in a nearly horizontal position: the foliage is scanty, and of a peculiar pale green tint, without any gloss. Hence the woods appear light and shadowless; this, although a loss of comfort to the traveller under the scorching rays of the summer, is of importance to the farmer, as it allows

grass to grow where it otherwise would not. The leaves are not shed periodically; this character appears common to the entire southern hemisphere, namely, South America, Australia, and the Cape of Good Hope. The inhabitants of this hemisphere, and of the intertropical regions, thus lose perhaps one of the most glorious, though to our eyes common spectacles in the world—the first bursting into full foliage of the leafless tree.—*Darwin's Journal of a Voyage round the World.*

ON STRIKING CUTTINGS.—Some excellent directions for increasing exotic plants has appeared in the Cabinet, I am induced to add that propagation by cuttings is one of the most important parts of the gardening profession; and the principles on which it is based should be constantly present to the mind of the operator. Selection of wood may be termed the first point. The wood, as a general principle, should be short jointed, somewhat mature, and for plants in an active state, possessing leaves perfectly developed. The due care of the leaf (on which so much depends), is the next great object; this should never be allowed to flag or droop, from the moment it is taken from the mother plant. Hence the propriety of using striking glasses, which although inclosing a somewhat vitiated atmosphere, prevent any undue perspiration in the leaf; which circumstance is of more importance than the character of the atmosphere. In making cuttings, the more of sound healthy leaves that can be retained the better, provided they can be carefully preserved; but in order to find room for the crowding multitudes of modern plantations, it often becomes absolutely necessary to reduce these organs. In doing this there is no occasion to strip the cutting like a hedge Poplar—every stump of a leaf, and even footstalk that can be left without crowding the adjoining cutting, contributes its quota to the success of the cutting.—*Conservatory.*

Floral Operations for September.

ANNUAL FLOWER SEEDS, as Clarkia, Collinsia, Schizanthuses, Ten Week Stocks, &c., now sown in pots, and kept in a cool frame or greenhouse during winter, will be suitable for planting out in open borders next April. Such plants bloom early and fine, and their flowering season is generally closing when spring-sown plants are coming into bloom. Seeds of many kinds now sown in the open borders endure winter and bloom vigorously early next season.

CAMELLIAS.—Thin the flower buds, which will tend to preserve more certainly those for blooming, and cause them to be vigorous. Place some in the greenhouse early, that are desired to bloom in December, or before, in some cases. Directions for potting, &c., are given in last month's calendar.

CARNATION LAYERS should immediately be potted off.

CHINA ROSE CUTTINGS now strike very freely; buds may still be put in successfully, but do it as early as possible.

DAILIAS.—Where the laterals are very numerous, they should be thinned out so as to have vigorous blooms. Toward the end of the month collect seeds of the early-blown flowers.

Greenhouse plants will generally require to be taken in by the end of the month. If allowed to remain out much longer the foliage will often turn brown from the effect of cold air. The earlier succulents are the better to save them from wet.

LOBELIAS.—Offsets should be potted off, so as to have them well rooted before winter.

MIGNONETTE may now be sown in pots to bloom in winter.

PELARGONIUMS, cuttings of, may now be put off; plants of which will bloom in May.

If Pelargoniums have not been headed down, they should now be done, the shoots may push a little before repotting for winter. Plants which have been headed down, and have pushed shoots two inches long, should be repotted.

PINKS, pipings of, if struck, may be taken off and planted in the situations intended for blooming in next season, as early as possible.

PLANTS OF HERBACEOUS CALCEOLARIAS should now be divided, taking off offsets and planting them in small pots. Cut off the flower stems of such as have done blooming to induce shoots to be vigorous. See article in July number.

Plants of Chinese Chrysanthemums should be repotted if necessary; for if done later the blossom will be small. Use the richest soil. Pinch off the heads to cause the production of laterals, so as to have a head of flowers.

Plants of Pentstemons should be divided by taking off offsets, or increased by striking slips. They should be struck in heat.

PANSIES.—The tops and slips of Pansies should now be cut off, and be inserted under a hand-glass, or where they can be shaded a little. They will root freely, and be good plants for next season.

POLYANTHUS and AURICULA seed should be sown immediately, or otherwise be kept till spring.

ROSES.—Where plants have been provided for the purpose of forcing in autumn or winter, and are plunged in the open ground, twist the pot round to break the roots which may have extended below the pot.

RANUNCULUS beds should now be prepared as follows:—The depth of soil to be two feet and a half, of a rich clayey, friable loam, retentive of moisture; about six or eight inches from the surface to be a rich light loam, of a sandy nature. Remove the whole of the soil with the remains of the dung given last year, and turn up the subsoil a whole spade in depth, breaking it well. If the beds are allowed to remain in this state for a day or two to sweeten the subsoil it will be an advantage. Then place upon the subsoil a layer of cow-dung, at least one year old, four inches thick; then scatter over it the fine powder of new-slaked lime, to correct any acidity and destroy the worms. Then fill up with new light soil, taken from the surface of the old tulip-bed or potato-ground, which has been frequently turned to sweeten it.

SWEET WILLIAM seed immediately sown will soon strike, and the plants bloom next season.

Seeds of many kinds of flowers will be ripe for gathering this month.

Tigridia, Commellina, and similar roots, may be taken up about the end of the month. Keep the soil with the Tigridias and dry it gradually.

VERBENAS.—Runners of this plant should now be taken off, planting them in small pots half filled with potsherds, and the rest with good loamy soil, then placing them in a shady situation. It should be attended to as early in the month as convenient. When taken into a cold frame or greenhouse for winter protection much of the success depends on being kept near the glass; or sink a box or two, half filled with potsherds, and the other good loamy soil, round the plant, so that the runners, being pegged down to the soil, will soon take root at the joints. When a sufficient number are rooted, separate the stems from the parent plant, and those in the boxes will be well established, and, being removed before frost, are easily preserved in winter, as done with those in pots.

When Lilies, Crown Imperials, Narcissuses, &c., require dividing, take them up now, and replant immediately; also plant Hyacinths, Crocuses, &c., either in beds, or in pots, for forcing immediately.

When Petunias, Heliotropium, Salvias, Pelargoniums, Ragwort, Anagallis, Calceolarias, Hemimeris, Bouvardia, Maurandias, Antirrhinums, that have been grown in open borders, and it is desirable to have bushy plants for the same purpose the next year, it is now the proper time to take off slips (select the short and well-ripened ones), and insert a number in a pot; afterwards place them in a hot-bed frame, or other situation having the command of heat. When struck root, they may be placed in a greenhouse or cool frame to preserve them from frost during winter. When divided and planted out the ensuing May in open borders of rich soil, the plants will be stocky, and bloom profusely.

Univ. of
California



1. *BEGONIA ALBO-COCCINEA*.

2. *FELARGONIUM*, "MARY QUEEN OF SCOTS".

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,
OCTOBER 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I. EMBELLISHMENTS.

1. BEGONIA ALBO-COCCINEA (WHITE AND SCARLET).

FEW tribes of plants possess greater interest than that to which the ornamental species we now figure belongs. The delicate and pretty coloured flowers possessed by most of the kinds, the long time they continue in beauty, and the very graceful manner in which they are produced, are alone considerations of sufficient merit for general appreciation; but besides this, they have a further claim in the remarkable and entertaining diversity which exist in their respective construction, and also that they may be very easily grown and multiplied. The present species is a native of India, and was raised from seed in the Royal Botanic Garden at Kew, where our drawing was prepared in June last. The brilliant contrast of colour afforded by the bright scarlet and pure white flowers gives it a very attractive appearance, and it ought to be in the hands of all who admire and are desirous to cultivate this beautiful family. As their proper management is not generally understood, we abridge the following very excellent observations from an article by Mr. James Donald, in the *Journal of the Horticultural Society*, Part II., and hope it may be a means of facilitating their spread:—

“In regard to their cultivation, I may mention that Begonias are all stove plants, and that they enjoy a humid atmosphere of about

VOL. XIV. No. 164.

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80° in summer, with a slight shade to break the rays of the mid-day sun. In winter, the atmosphere should be kept dry, especially in cloudy weather, and the temperature allowed to fall as low as 58°. Although *B. Evansiana* and others will stand in a greenhouse, still even these species are much benefited by heat and moisture during the early part of the season. As to the soil most congenial to their nature, there appear to be various opinions. From experience, I am satisfied that sandy loam and leaf-mould are the two principal materials; and for the kinds that grow luxuriantly these should be used in equal proportions. For some species, such as *B. coccinea*, which are liable to damp off, the quantity of vegetable matter may be less, and the deficiency made up with silver sand. Damping, however, cannot altogether be attributed to soil, but must be ascribed to bad drainage, or to moisture when the plant does not require it.

“In preparing the pots, some prefer small potsherds for drainage: this, in my opinion, is almost as bad as using sifted soil, for if the crevices are small they will be the more easily filled up. For an 8-inch pot, which may be taken as an average size for growing a specimen plant, the potsherds should not be less than three inches across; and if laid to the depth of two or three inches, and properly covered with pieces of turf, there will be no danger of the roots suffering from damp, if water is judiciously given.

“*Begonias* being in general plants of free growth and delighting in fresh soil, it is necessary to repot them twice in the course of a year, *viz.*, February and August; but this rule, like many more in gardening, is not without an exception: one plant may grow faster than another under the same circumstances, and therefore ought to be repotted when it requires it, nothing being worse for any plant than to cramp its roots.

“As *Begonias* are generally intermixed with other plants, and receive a similar supply of water, both in summer and winter, they may well present a sickly appearance. There are few plants that require a more liberal supply during summer than they do; indeed some of the robust growing sorts will flourish with their pots half immersed in water; but, like other plants, they require a season of rest, at which time comparatively little moisture is required. This period is clearly pointed out by nature. In October all the species with which I am acquainted begin to show that water should then be

gradually withheld ; if it is continued, some begin to drop their leaves, others to decay at the root or assume a languid appearance : therefore it is obvious that they should be kept dry from the 1st of November to the 1st of February. During that time, if water is given once or twice a-week it will be sufficient, and the herbaceous sorts may be kept quite dry. Although many species remain green and healthy in winter, the growth they make is but trifling, nor should they be induced to grow, for if they are deprived of the season which nature has provided for their rest, the best of management will no compensate for it in twelve months afterwards.

“ There are some who imagine that a bushy plant cannot be produced, unless it has been cut down in winter or pinched back during the growing season, but this is a mistake. If *B. undulata*, or any of the fibrous-rooted sorts, which require pruning, are cut down in winter, the root will in all probability die, and if pinched back, when are they to flower? To such as *B. Evansiana* the knife is never required, because the stems die down annually ; and it is never necessary to cut such as *B. heracleifolia* : therefore this matter rests with the tall-growing sorts. To explain this it will be necessary to consider what functions such stems perform. Take *B. undulata* for an example : every stem of one year's growth, notwithstanding its flowering, is a magazine in which secretions are stored for the support, during a certain time, of those which may arise from its base the following season, and thus the stems become analogous to the pseudo-bulbs in Orchids ; were this not the case, suckers would rise as strong without the stem as with it, and they would not be liable to damp off, although it should receive an injury. From this it is evident that all the pruning that is necessary is to cut out all the stems above two years old, and this should be done in spring, when the plant is repotted in order to give room for the young shoots.

“ As to propagation, perhaps few plants are so easily increased as Begonias. All those from which cuttings can be taken will strike freely under ordinary treatment, and such as *B. Barkeri*, from which cuttings cannot be had, may be abundantly multiplied from seed. The seed should be sown when gathered, in light sandy soil, and placed in a moist situation, where the seedlings may be shaded from the rays of the sun.”

Mr. Donald proceeds to give a descriptive list of each of the species

as are most generally grown, together with their synonymes ; and as confusion too often exists among the names, we purpose to transfer that portion of the article to the pages of our next Number.

2. PELARGONIUM ("MARY, QUEEN OF SCOTS").

This variety will be found an acquisition to the exhibitor's collection, especially in the present dearth of good light flowers. It will be seen on reference to our advertising pages that it is now offered for sale by Mr. Gaines, of Battersea.

ARTICLE II.

THE METROPOLITAN FLORAL EXHIBITIONS.

METROPOLITAN SOCIETY, *September 14.*

THIS was the annual grand Dahlia show, where most of the principal growers throughout the country are exhibitors. It was on this occasion held at the Grecian Saloon, in the City Road, and, considering the season, the number and quality of the flowers displayed much exceeded our expectations. Besides the Dahlias, there were also some very creditable productions in Fuchsias, Verbenas, Heartsease, &c.; our space, however, necessarily confines these remarks to the chief feature of the meeting—the Dahlias, and therefore we proceed at once to observe that the Nurseryman's section comprised the finest selections of show flowers, amongst which, it will be seen, some of the old favourites still retain their place.

Mr. Turner, florist, of Chalvey, was the exhibitor of the 24 blooms which received the first prize in CLASS I. They were Lady St. Maur, Raphael, Mrs. Anderson, Victory of Sussex, Duchess of Richmond, Captain Warner, Biondetta, Princess Radziwill, Cloth of Gold, Sir J. S. Richardson, Princess Royal (Hudson), Admiral Stopford, Beauty of Sussex, Mrs. Shelley, Nonpareil, Prometheus, Cleopatra, Beeswing, Eximia (Girling), Marquis of Aylesbury, Indispensable, Essex Triomphe, Queen of Roses (Widnall), and Springfield Rival. Mr. Cutter, of Slough, obtained the second prize with Beeswing, Essex Triomphe, Burnham Champion, Blue Bonnet, Vanguard, Lady St. Maur, Duchess of Richmond, Northern Beauty, Indispensable, Cleopatra, Rembrandt, Empress of the Whites, Competitor (Hodge),

Mrs. Shelley, Queen of the Roses, Victory of Sussex, Marquis of Bath, Lady Stopford, Rose d'Amour (Brown), Sir J. S. Richardson, Princess Radziwill, and Nonpareil. Mr. Bragg, florist, Slough, received the third prize for Eclipse (Cattleugh), Bermondsey Bee, Josephine Eriau, Beeswing, Essex Bride, Nonpareil, Mrs. Shelley, Gloria Mundi, Rose d'Amour (Batteur), Admiral Stopford, Antagonist, Burnham Champion, Marchioness of Cornwallis, Princess Radziwill, Essex Triomphe, Indispensable, Lady St. Maur, Lady Stopford, Dowager Lady Cooper, Marquis of Aylesbury, Lady Sale (Smith), Lady Leicester, Northern Star, and Springfield Rival. The fourth prize was awarded to Mr. Gaines, of Battersea, who showed, Mrs. Shelley, Vivid (Thompson), Matilda (Gaines), Vanguard, Caractus, Lady Leicester, Dr. Graham, Blooming Girl, Marchioness of Cornwallis, Norfolk Hero (Harrison), Beeswing, the Baron, Queen (Widnall), Beauty of Birmingham (Harrison), Sir J. S. Richardson, Biondetta, Victory of Sussex, Raphael, Goliath, Lady St. Maur, Hope, Mary Ann (Harison), Marquis of Aylesbury, and Cloth of Gold. Mr. Girling, of Stowmarket, obtained the fifth prize with Athletæ, Gloria Mundi, Queen of Perpetuals, Biondetta, Raphael, Princesse de Joinville, Dawn of Day, Competitor (Hodge), Admiral Stopford, Fulwood Hero, Cloth of Gold, Nonpareil, Lady St. Maur, Sir E. Antrobus, Eximia, Shone Erferterun, Bertha von Jena, Rose d'Amour (Batteur), Princess Radziwill, Essex Triomphe, Cleopatra, Rembrandt, and Queen of Roses. Mr. Spary, of Hungerford, received the sixth prize with Bathonia, Indispensable, Nonpareil, Cleopatra, Raphael, Gloria Mundi, Victory of Sussex, Alice Hawthorn, Captain Warner, Lady Leicester, Sir E. Antrobus, Essex Triomphe, Beauty of the Plain, Empress of the Scarlets (Spary), Standard of Perfection, Mrs. Shelley, Marquis of Aylesbury, Optimus, Admiral Stopford, Countess of Bandon (Spary), President of the West, Queen (Widnall), Essex Rosy Lilac, and Beeswing. In addition to these, collections were exhibited by Mr. Keynes, of Salisbury, Mr. Turvill, of Chelmsford, Mr. Kimberley, of Coventry, and Messrs. Smith, of Hackney.

In CLASS II., for 24 blooms, open to nurserymen not competitors in the first class, Mr. Sealey, of Bristol, obtained the first prize with Prometheus (Wildman), Mrs. Shelley, Maria (Wheeler), Beeswing, Alice Hawthorn, Marquis of Aylesbury, Gloria Mundi, Admiral Stopford, Princess Radziwill, Sir J. S. Richardson, Queen, Vivid,

Queen of Perpetuals, Victory of Sussex, Essex Triomphe, Beauty of Sussex, Duchess of Richmond, Biondetta, Eclipse, Nonpareil, Rose d'Amour, Lady Harland, and Sir E. Antrobus. The second prize was awarded to Mr. Oakley of Southampton, for Antler (Keynes), President of the West, Queen of Perpetuals, Beeswing, Princess Royal (Hudson), Essex Triomphe, Athlete, Princess Radziwill, Gloria Mundi, Victory of Sussex, Lady Sale (Smith), Eclipse (Widnall), Mrs. Shelley, Standard of Perfection, Queen of Roses, Alexander, Sir E. Antrobus, La Polka, Queen, Captain Warner, Fulwood Hero, Sir J. S. Richardson, Cleopatra, and Admiral Stopford. Mr. Pearce, of Holloway, received the third prize; and Mr. Whale, of Elcot, the fourth.

The exhibitions by private growers in CLASSES III. and IV., of 12 blooms each, were numerous, and no less than twenty-two prizes awarded. Mr. Howard, of Burnham, produced those which obtained the first prize in 'Class III., viz.—Beauty of Sussex, Competitor (Hodge), Springfield Rival, Indispensable, Antagonist, Raphael, Lady St. Maur, Fulwood Hero, Biondetta, Lady Leicester, Essex Triomphe, and Nonpareil. In Class IV., Mr. Cook, of Notting Hill, received the first prize for Cleopatra, Victory of Sussex, Queen, Bathonia, Optimus, Marchioness of Cornwallis, Antagonist, Sir E. Antrobus, Lady St. Maur, Nonpareil, and Mrs. Shelley.

CLASS V. was limited to the new flowers of the season, exhibited only by private growers. Mr. Ford, of Erith, received the first prize for Marchioness of Cornwallis, Northern Star, Princess Radziwill, Rose d'Amour, Lady Stopford, and Marquis of Aylesbury. Mr. Howard had the second prize with Princess Radziwill, Vanguard, Captain Warner, Essex Rosy Lilac, Magician, and Empress of the Scarlets. In addition to these, several other prizes were awarded, but we did not notice any kinds not shown on other stands.

In the class appropriated exclusively to what have now become termed FANCY FLOWERS, were many specimens evidencing a near approach to the requisite shape of a "show-flower." And although it is probable they will continue to be exhibited in a separate class, there is no doubt varieties will soon be had which shall have attained the highest points of perfection. Several very good acquisitions have this season been made from the continent, where this class has hitherto been more appreciated. In the nurseryman's division (CLASS VI.),

Mr. Bragg, florist, Slough, gained the first prize with *Captivation* (Salter), *Surprise* (Oakley), *Harlequin* (Dod), *Bouquet de Breuil*, *Multicolor admirabilis* (primrose prettily striped with crimson), *Madame de Schwanefeld*, *Striata formosissima*, *Painted Lady*, *Alba purpurea superba*, *Mimosa* (yellow tipped with white), *Louise* (Messire), and *Le Domino Noir*. Mr. Pearce, of Holloway, was second, with *Erzherzog Stephen*, *Nihil*, *Charivari*, *Tricolor* (Girling), *La Lionne*, *Narcissus* (Harrison), *Vicomte Reesiguiet*, *Harlequin* (Dod), *Alba purpurea superba*, *Ville de Beaune*, *Alba purpurea*, and *Bijou de Dijon*. Mr. Gaines received the third award for *Adonis* (Harrison), *Nihil*, *Zeitgest*, *Alba purpurea*, *Narcissus* (Harrison), *Harlequin* (Dod), *Madame Wallner*, *Eveque de Dijon*, *Miss Watson*, *Madame Schwanefeld*, *Madame Mortier Bavais*, and *Alba purpurea superba*. Mr. Girling, of Stowmarket, was fourth, with *Madame Dresser*, *Vicomte Reesiguiet*, *Madame Meillez* (Keynes), *Hermione*, *Alba purpurea grandiflora*, *Gaiety*, *Frau Rittmeister*, *Russing*, *Illuminator*, *Mimosa*, *Nouveau Protée*, *Madame Wallner*, and *Erzherzog Stephen*. The fifth prize was given to Mr. Turner, who showed *Mimosa*, *Surprise* (Oakley), *Le Domino Noir*, *Madame Mortier Bavais*, *Louise*, *Bouquet de Breuil*, *Madame Dresser*, *Madame Zehler*, *Harlequin*, *Heroine*, *Essex Goldfinch*, and *Madame Chauvière*. The sixth prize was stated to be given to Mr. Keynes, but no names were attached.

In the amateurs' class of this section, some controversy took place as to the correctness of the awards. The following was, however, the order we found them placed in—1. Mr. Ford, of Erith, for *Bouquet de Breuil*, *Louise*, *Le Domino Noir*, *Harlequin*, *Nihil*, and *Essex Goldfinch*. 2. Mr. Fozard, of Paddington, for *La Lionne*, *Vicomte Reesiguiet*, *Belle du Donk*, *Madame Wallner*, *Essex Goldfinch*, and *Village Maid*. 3. Mr. Parsons, for *Vicomte Reesiguiet*, *Madame Wallner*, *La Vogue*, *Nihil*, and *La Lionne*. 4. Mr. Hunt, Paddington, for *Beauty of England*, *Alba Purpurea*, *Painted Lady*, *Captivation*, *Surprise*, and *Bouquet de Breuil*. 5. Mr. Edwards, Holloway, for *Nihil*, *Alba Purpurea*, *Superba*, *Vicomte Reesiguiet*, *Madame Meillez* (Keynes), *Belle du Donk*, and *Madeline*. 6. Mr. James, Stoke Newington, for *Harlequin* (Dod), *Madame Meillez*, *Modesty*, *Surprise*, *Miss Watson*, and *Vicomte Reesiguiet*.

Proceeding to Classes VIII. and IX., we come to the seedlings of

1845 and 1846 ; we will speak first of the former, of which a great number were shown, and amongst them a few first-raters. Certificates of merit were adjudged to five, but as some of the others to which no award was made will prove very useful in making up a stand, and as some also, it will be easily imagined, were produced, having no claim to rank as show flowers, we give our notes verbatim of all those that came under our observation.

Alexander the Great.—The grower's name not stated. A large light crimson flower, with tolerable outline, and well up in the centre, where, however, it appeared confused, and the eye seemed difficult to close.

Andromeda.—Mr. Collison, of Bath. A novel and rather pleasingly coloured flower, being a very pale amber, with a purple-crimson shade at the ends of the petals. The centre and arrangement good, but the petals being narrowly proportioned, there is a thinness around the eye and the outline is imperfect.

Beauty of the Vale.—Name of grower not stated. Deep rosy-lilac, small size, and very imperfect in arrangement.

Berryer.—Mr. Turner, of Chalvey. An intense dark velvety maroon ; the centre regular and sufficiently elevated ; of great depth and excellent outline ; rather above the medium size, but full. This is unquestionably first rate, and better than either Admiral Stopford or Essex Triomphe. A first-class certificate was awarded.

Cassandra.—Mr. Turner. A good sized flower, of deep red-crimson colour, fine outline, but the eye faulty and not well up.

Essex White.—Mr. Turvill, Chelmsford. In colour rather blush and but a thinly made flower.

Europa.—Shown by the Metropolitan Union. A large, deep lilac, flower ; very confusedly arranged.

Fair Rosamond.—Mr. Bragg, Slough. Blush, shaded with rosy-crimson. Of moderately good properties, as a second-class flower.

Fancy Boy.—Mr. Bragg. A small fancy variety, of inferior quality. †

Golden Fleece.—The Metropolitan Union. A novel coloured flower, being bright yellow-nankin, of medium size, good outline, and hemispherical in shape ; a very desirable flower, and ought to be grown.

Hon. Mrs. Herbert.—Mr. Keynes, Salisbury. Pale salmon-red,

of small size, well up in the centre, and good outline, but deficient in arrangement.

Lady of the Lake.—Mr. Keynes. White, with a bright purple lace; of large size, and may do for a back row, but hardly full enough, and the outline is not good.

Louis Philippe.—Mr. Turner. Deep crimson, good size, compactly made, fairish outline, and well up. Some of the petals inclined to notch, still it is a flower that may be had recourse to if required.

Master Edward Clayton.—Mr. Bragg. A fancy kind; white, with dark edges, uneven, irregular, and bad.

Master George Clayton.—Mr. Bragg. This is another fancy flower, of rather better quality; in colour white, edged with crimson-purple, and of good size.

Matchless.—Mr. Whale, of Elcot. Delicate blush, large size, tolerably well up, and good outline. We doubt, however, its being an improvement on Marchioness of Cornwallis.

Metropolitan Queen.—The grower not stated. Blush, laced with purple, large, and very thin.

Middlesex Canary.—No grower named. Light yellow, medium size, and rather compact. The outer petals, however, reflex, and the outline is broken.

Miss Vyse.—Mr. Turner. White, laced with purple, of good size, but thin, and the outline imperfect. A first-class certificate was awarded, but from what we could see of it, it was certainly only second-rate.

Model of Perfection.—Mr. Spary, Hungerford. Bright red, remarkably compact and neat, but so very small we fear it will seldom be got showable.

Mrs. Edwards.—Mr. Bragg. In colour, a kind of salmon-crimson, with sulphur veins; in quality, only second-rate.

Princess Helena.—Mr. Gaines, Battersea. White, the petals very firm, compact, and good in shape, but of small size and inclined to be ribbed.

Queen of Violets.—Mr. Keynes. Rich in colour, well up in the centre, and of considerable depth, but of only indifferent arrangement.

Rising Sun.—Grower not stated. Light red, very compact, re-

markably well up, and regular in arrangement, scarcely of the medium size, but when well grown will be useful.

Robusta.—Mr. Gaines. Red, of moderate qualities.

Scarlet Gem.—Mr. Turner. The colour deep and bright; the shape is first-rate, the eye being well up, the arrangement regular, and the outline perfect. It is a bold large sized flower, without partaking of coarseness, and well merited the certificate awarded.

Star.—Mr. Bragg. Blush white, laced with bright deep crimson, as good as the average in form, and very attractive in appearance. We believe a certificate was awarded for it.

Victorina.—Mr. Bushell, of Kennington. Deep rosy peach colour, good centre, fairish outline and arrangement. A very useful second-class flower.

Yellow Standard.—Mr. Keynes. Not a bright coloured flower, but in shape a decided improvement on all others in the class. A certificate was awarded.

Amongst the present year's seedlings, of which Class IX. was comprised, there were few worth speaking of. Certificates were given for two kinds, named *Mountfitchet* and *Black-and-all-Black*; the former a rosy salmon, bold looking flower, well made, but likely to be coarse. The latter is a seedling of Mr. Turville's, very dark in colour, and of very promising quality; we hardly expect, however, it will equal *Berryer*. Mr. Turville also showed a seedling named *Essex Yellow*, a large-sized flower and very clear in colour. From Mr. Whale, we noticed *Noble Grand* and *Beauty*. The first a large fine made flower, and distinct in colour, being a clear white, broadly laced, with rosy lilac. The other is also a laced flower, but with a deeper colour, and has very good properties. From Mr. Turner, was quite a novel coloured flower named *Eliza Miellez*, the ground being amber-yellow, and the lace very dark crimson. If it comes out in an improved form another season it will be very attractive. The only other kind we noted was named *Richard Cobden*, a small, but compact and promising crimson flower.

ARTICLE III.

ON STOCKS FOR THE TREE ROSE.

BY AN EXTENSIVE PRACTITIONER.

As very considerable interest has been excited in the floricultural class of the community, in consequence of the introduction of the articles on Roses which have appeared in the CABINET; and as no remarks have been inserted on the mode of forming that most ornamental appendage to a shrubbery, the Tree (or, as it is sometimes called, Standard) Rose, I am induced to send some observations upon the formation and culture thereof. They are the result of my own successful practice. An eminent nurseryman, a great Rose cultivator, gave me the first hints on the subject: and I have pursued the same treatment with satisfaction to myself. In the course of experiment I have made some improvement in the practice. I shall, therefore, send, for insertion in the CABINET from time to time, the course of treatment I pursue from first to last.

Selection of Stocks to bud, &c., upon.—Any time from the end of October to the middle of February, plants of the wild English Rose are procured. I find, however, that the earlier the better. There are several varieties of stocks to be had: those I prefer being far the best, and of a very upright growth, making shoots nearly half an inch in diameter, and growing several feet high in one season. The colour of such is either wholly green barked, or green slightly tinged with brown. The ripe fruit of both is of a long oval shape. These kinds are generally to be met with in plantations or woods, and occasionally in hedges. There is a spreading, bushy-growing kind, which has a red bark, and a small roundish fruit: this I find does not answer near so well as the others,—the buds not taken so freely, nor, if they take to uniting at all, do they grow so kindly afterwards.

In getting up the wild stocks, I have always given strict orders to my gardener to get them up with as much length of root as convenience would admit. This attention is necessary in order to get some fibrous roots; and, after all, it will often occur that not a single fibrous root will be found upon the main roots. They are, however, very free to grow under either circumstance; only the former ones afford the advantage of making more and stronger lateral shoots the first season, and also better-placed shoots for budding upon.

Stocks of different sizes and heights are procured, in order to suit a vigorous, or less so, growing kind, to be inserted by budding, and to have some worked from two to five feet high. Care is taken to get such stocks as are free from large knots, some such being found upon the stocks when of several years' growth. It certainly adds to the beauty of the tree, to have a straight free-growing stock.

Having got up the stocks, on a day that is not frosty, I have them brought as soon as convenient, that the tender roots may not be damaged by exposure to a cool air.

In planting them, I select a good soil about a foot deep, and have a portion of well-rotted dung dug into it. The strongest growing kinds of stocks I plant in one piece of ground, and the less so in another. This is easily ascertained by observing what strength the lateral shoots have previously grown, before removal. The necessity of this selection is requisite, because if a very vigorous growing kind were inserted into a small stock, the bud would take all the support, and grow to a single shoot, or form a poor head.

Before planting, I have the stocks dressed, cutting clean away all lateral shoots to the height at which I wish the stock to be kept, and cutting off the head about a quarter of an inch above a bud, in a sloping direction from the bud. Any damaged roots are finished with clean cuts, either by a knife or fine-toothed saw. The top cut of the stock I always cover over with a mixture of bees' wax and pitch, to keep out wet.

The stocks are planted in rows at from two to three feet apart, arranging the tallest in the back row, and the lower ones in the front proportionably. A trench being made, the roots are regularly disposed, and covered from four to six inches deep, treading the soil gently upon the roots, and close up to the stem, to fasten it properly. I then have a stake fixed so as to tie it to its place, and prevent its being shaken with the wind. I have observed in some nurseries a long stick, fixed horizontally at the height of three feet, and to which the stocks were tied; but this does not answer so well as each having a separate stake to keep it in an upright position, the wind driving those secured in the cross-bar manner in a falling direction.

Nothing more is required till the stocks push shoots in March, or early in April. I shall, therefore, reserve the next remarks for the November Number of the CABINET.

ARTICLE IV.

ON USING BROKEN POTSDHERDS IN COMPOST FOR POT PLANTS.

BY MR. WILLIAM CHITTY, OF STAMFORD HILL, NEAR LONDON.

It may be of use to some of the readers of *THE FLORICULTURAL CABINET* to know, that potsherds broken very small with a hammer, so that none of the pieces are larger than a moderate-sized pea, is a very excellent material for mixing with the soil in which plants are potted; in my estimation, very far superior to charcoal. Within the last twelve months I have used it very extensively, and found it to be very beneficial. My first experiment was in the latter part of August, 1845, with a plant of *Pimelea spectabilis*, which required shifting, and which had made poor progress all the previous part of the summer, but immediately on being potted in the broken pot-mixture took to growing vigorously, and produced a fine head of bloom in the spring. Since that time I have used it to almost everything grown in pots. My *Gloxinias* and *Achimenes* have this summer been unusually fine, in consequence, I presume, of a large admixture of this material with the soil, and the facility it affords their fine roots for permeating every part of the soil. A plant of *Crassula coccinea* has likewise produced much larger heads of bloom, potted in the same mixture. I am so well satisfied with the results, that I would recommend the plan to every person who has the wish to see plants flourish. The material is always at hand where many plants are grown in pots; and on wet days, &c., as much may be broken up as will last for a considerable time.

ARTICLE V.

HINTS ON THE CULTIVATION OF AUTUMNAL ROSES,

BY MESSRS. WILLIAM WOOD AND SON, WOODLANDS NURSERY, MARESFIELD,
UCKFIELD, SUSSEX.

PERPETUAL and Bourbon Roses should be planted in a good mixture of turfy loam and half-decomposed manure (at least one wheelbarrow full to each plant); and if standards, they should be carefully staked. The shoots require to be shortened in spring to about three eyes, either in February or March, according to the season. During the

summer and autumn a plentiful supply of liquid manure will be found highly beneficial; we have used Brain's concentrated liquid Guano, in the proportion of one table-spoonful to a gallon of water, once a-week, with great success.

Among the hybrid, perpetual, and Bourbon Roses, will be found some varieties having a tendency to throw up vigorous shoots, showing little or no disposition to flower; these should be carefully removed during the summer, leaving such only as are of medium growth. These, if shortened to six eyes, will be found to produce abundance of bloom in the autumn.

In order to insure a high state of cultivation, it will be found necessary to stir the surface of the beds annually in November, after which they should be covered with a good dressing of manure; decayed linings, from a cucumber or melon-pit, have been found the most efficacious for this purpose.

In some situations, where the rose-beds are much exposed to view, it will be requisite to fork in the manure at once, as it would otherwise appear unsightly; in other cases, however, it may be allowed to remain on the surface until the plants have received their annual pruning, as recommended in the first paragraph.

If the foregoing instructions are carefully attended to, the result will amply compensate the extra labour bestowed; as a proof of which, we have the pleasure of stating that the autumnal Roses at the Woodlands Nursery are at this late period of the season in splendid bloom.

ARTICLE VI.

OBSERVATIONS ON ALLSPICE.

BY HISTORICA.

ALLSPICE or Pimenta is the dried berry of a West Indian species of myrtle (*Myrtus pimenta*) which grows to the height of twenty feet or upwards, and has somewhat oval leaves about four inches long, of a deep shining green colour, and numerous branches of white flowers, each with four small petals. In the whole vegetable kingdom there is scarcely any tree more beautiful or more fragrant than a young Pimenta tree about the month of July, branched on all sides, richly clad with deep green leaves, which are relieved with

an exuberance of white and richly aromatic flowers ; it attracts the notice of all who approach it. Pimenta trees grow spontaneously and in great abundance, in many parts of Jamaica ; but they cannot be propagated, without great difficulty. The usual mode of making a Pimenta walk, or plantation, is to appropriate for this purpose, a piece of woody ground in the neighbourhood of an already existing walk, or in a part of the country, where the scattered trees are found in a native state. The other trees are cut down, and, in a year or two, young Pimenta plants are found to spring up in all parts, supposed to have been produced from berries dropped there by birds, which eagerly devours them. About the month of September, and not long after the blossoms have fallen, the berries are in a fit state to be gathered. At this time, though not quite ripe, they are full grown, and about the size of pepper-corns. They are gathered by the hand ; and one labourer on a tree will strip them off so quickly, as to employ three below to gather them up ; and an industrious picker will fill a bag of seventy pounds weight in a day. The berries are then spread on a terrace, in the sun to be dried ; but this is an operation which requires great care, from the necessity of keeping them entirely free from moisture. By the drying they lose their green colour, and become of a reddish brown ; the process is known to be completed by their change of colour, and by the rotting of the seeds within the berries. They are then packed into bags or hogsheds for the market. When the berries are quite ripe, they are of a dark purple colour, and filled with a sweet pulp. Pimenta is thought to resemble nutmegs and cloves, whence it has obtained the name of all-spice. It is also employed in medicine, as an agreeable aromatic, and forms the basis of distilled water, a spirit, and essential oil. The leaves of the Pimenta tree yield, in distillation, an odoriferous oil, which is not unfrequently used in medicine preparations instead of the oil of cloves.

ARTICLE VII.

REMARKS ON THE SENSITIVE PLANT.

BY LUCY.

THE movement of the leaves of the *Mimosa pudica* have their origin in certain enlargements, situated at the articulation of the leaflets with the petiole, and of the petiole with the stem. Those only which are

situated in the last articulation are of sufficient size to be submitted to experiment. If, by a longitudinal section, the lower half of this swelling be removed, the petiole will remain depressed, having lost the power of elevating itself: if the superior half be removed, the petiole will remain constantly elevated, having lost the power of depressing itself. These facts prove that the motions of the petiole depend on the alternate turgescence of the upper and lower half of the enlargement, situated at the point of articulation: and that contractibility is not the principle of these motions.

If one part of the plant be irritated, the others will soon sympathise, or bear witness, by the successive falling of their leaves, that they have successively felt the irritation.—Thus, if a leaflet be burnt slightly by a lens, the interior movement which is produced will be propagated successively to the other leaflets of the leaf, and thence to the other leaves on the same stalk. A very clever French experimentalist, Mons. Dutrochet, found,

1st. That this interior movement is transmitted equally well, either ascending or descending.

2nd. That it is equally well transmitted, even though a ring of bark has been removed.

3rd. That it is transmissible, even though the bark and pith be removed so that nothing remain to communicate between the two parts of the skin, except the woody fibres and vessels.

4th. That it is transmissible, even when the two parts communicate merely by a shred of bark.

5th. That it may be transmitted, even when the communication exists by the pith only.

6th. But that it is not transmissible, when the communication exists merely by the cortical parenchyma.

From these very interesting experiments, it results that the interior movement produced by irritation, is propagated by the ligneous fibres and the vessels.

The propagation is more rapid in the petioles than in the body of the stem; in the former it moves through a distance of from three to six tenths of an inch in a second; in the latter, through from eight to twelve hundredths of an inch, during the same portion of time. External temperature does not appear to exert any influence on the rapidity of the movement, but very sensibly affects its extent.

Absence from light, during a certain time, completely destroys the

irritability of the plant. Such change takes place more rapidly when the temperature is elevated, than when it is low. The return of the sun's influence readily restores the plant to its irritable state. It appears, therefore, that it is by the action of light, that the vital properties of vegetables are supported, as it is by the action of oxygen that those of animals are preserved, consequently, etiolation is to the former what asphyxia is to the latter.

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ACANTHOPIPPUM JAVANICUM. THE JAVANESE. (Bot. Reg. 47.) Orchidaceæ. Gynandria Monandria. Discovered in the woods of Mount Salak in Java, and has bloomed in the collection of Messrs. Loddiges. The flowers are pale yellow with a tinge of brown, streaked lines of purple, and the five parted mouth a clear lilac with a blotch of yellow in each. The lip is three lobed. Each flower is bellying, and about an inch and a half long. Singular and pretty. The following are the species hitherto known, viz.:—*A. Javanicum*, *A. striatum*; flowers French white striped with duller colour. *A. Sythetense*; flowers white, scentless. *A. bicolor*; flowers yellow with crimson and purple tips.

ÆSCHYNANTHUS BOSCHIANUS. VANDEN BOSCH'S. (Pax. Mag. Bot.) Gesneraceæ. Didynamia Angiospermia. An evergreen Epiphyte, from Java, which blooms freely in a stove or greenhouse. The flowers are produced in axillary clusters. Each blossom tubular, nearly three inches long. The calyx is a rich purplish and brown colour an inch long, and the corolla of a very rich deep scarlet, with yellow streaks inside the mouth. It blooms throughout spring and summer. It is in the collection of R. G. Loraue, Esq., and some of the London nurseries.

AMICIA ZIGOMERIS. TWO-JOINTED PODED. (Pax. Mag. Bot.) Leguminosæ. Monadelphia Decandria. A native of Mexico. It is a shrubby plant and somewhat a climber, thriving in either a stove or greenhouse. It grows freely and blooms plentifully. It does well too in summer in the open air, in a warm situation. The flowers are pea-shaped, an inch and a half across, a rich yellow colour, very showy, and in doors blooms through winter.

CLERODENDRUM SINUATUM. SINUATE-LEAVED. (Bot. Mag. 4255.) Verbenacæ, Didynamia Angiospermia. A native of Sierra Leone. It is a low stove shrub, producing numerous large corymbose heads of white flowers, which are highly fragrant.

DATURA CORNIGERA. HORN-BEARING. (Bot. Mag. 4252.) Solanæ, Pentandria Monogynia. A shrubby plant, blooming freely in the open air in the summer season, and protected in a cool greenhouse the other seasons. This species, Sir William Hooker observes, is known in collections under the name *Brugmansia Knightii*. The flowers are about six inches long, creamy-white,

funnel formed, and the reflexed points of the five parted lobes are long and horn like. It is well deserving a place in a collection of plants, especially for the open air in summer.

DIASTEMA OCHROLEUCA. THE PALE YELLOW. (Bot. Mag. 4254.) Gesneriaceæ, Didynamia Angiospermia. Sent from New Granada to the Royal Gardens of Kew. It is nearly allied to *Achimenes*, probably intermediate between *Achimenes* and *Gesneria*. It is a stove plant. The flowers are produced numerously in panicked heads. Each blossom is about an inch long, the tube cream colour, and the five parted (about the size of *Achimenes coccinea*), mouth white. It is a neat and interesting species.

HOLBOLLIA LATIFOLIA. BROAD-LEAVED. Monœcia Hexandria. (Bot. Reg. 49.) A hardy, or half hardy shrubby climber, a native of Nepal. It has bloomed against the open wall at the residence of L. W. Dillwyn, Esq., of Sketty Hall, near Swansea. The flowers are white, in clusters, small. The fruit, berries, are eatable.

HYDRANGÆA JAPONICA; VAR. CÆRULEA. JAPAN HYDRANGÆA. (Bot. Mag. 4253.) Dr. Siebold discovered the Japan Hydrangæa on the Island of Nipon, and abundantly cultivated by the Japanese. Two varieties are distinguished by him—"Benikaku," with rose-coloured flowers, and "*Konkaku*" with blue flowers. The one here figured is the blue, and is much handsomer than the rose-coloured. It is a shrub growing three feet high, and succeeds admirably with the same treatment as the common Hydrangæa. It deserves a place wherever it can be grown.

LESCHENAUZIA SPLENDENS. SPLENDID SCARLET FLOWERED. (Bot. Mag. 4256.) Goodenoviæ. Pentandria Monogynia. It has bloomed in the collection of Messrs. Lucombe, Pince, and Co., at Exeter nursery. It is a shrub from one to two feet high, copiously branched. The flowers are produced in *corymbs* of several blossoms. The size of each flower is about the same as *L. biloba*, the blue, but of the richest scarlet, having a pale tube. It is a very splendid flowering plant.

LILIUM SANGUINEUM. BLOOD-RED LILY. (Bot. Reg. 50.) It is said to be of Japan origin. It is a half-hardy species, growing about half a yard high, and blooms in May and June. The fine erect flowers are of a vivid orange-red colour with dark spots, not quite so large as those of the old orange lily of the gardens. Each stem, however, produces but one flower. Mr. Groom possesses a most extensive collection of this species, and other hardy hybrids, &c., which produce a fine display in his garden during summer.

JASMINUM NUDIFLORUM. NAKED-FLOWERED. (Bot. Reg. 48.) Jasminaceæ, Diandria Monogynia. Introduced from China by Mr. Fortune to the London Horticultural Society. It is a shrub with trailing branches. The leaves fall off early in autumn, and at the axils of the leaves which have fallen, the flowers are produced. Each blossom is an inch across, a rich yellow colour. It appears to be a greenhouse plant, and blooms very freely during the winter.

JONOPSISIDUM ACAULE. STEMLESS VIOLET-CRESS. (Bot. Reg. 51.) Sononym, Cochlearia acaulis. It is an annual, found wild on the hills near Lisbon. It is a hardy annual, quite dwarf, growing in any rich garden soil, and blooms profusely from April to October. Each blossom is about half an inch across, at first coming out white but turn to a beautiful lilac. It does best in a rather moist and shady situation, admirable for the edging to borders, walks, &c., also does well in a suitable place on rock-work. It has bloomed in the garden of the London Horticultural Society.

TALAUMA CANDOLLI. DE CANDOLLI'S. (Bot. Mag. 4251.) Magnoliaceæ Polyandria Polygynia. (Synonym *Magnolia odoratissima*, M. punila.) A charming stove shrub, a native of Java. Grown in a pot it becomes about three feet high, in Java fifteen feet. The flowers are produced solitary, terminal, drooping, cream-coloured, fragrant. Each flower about nine petals, and three to four inches across.

LONDON HORTICULTURAL SOCIETY, September 1.—Although the subjects for exhibition on this occasion were not numerous, some of them were far from being devoid of interest. A very fine specimen of the large white-flowered *Dendrobium formosum*, for which a Banksian medal was awarded, came from the nursery of Messrs. Rollisson, of Tooting; and of the same interesting tribe, Messrs. Loddiges, of Hackney, produced a series of plants, consisting of the dingy brown-flowered *Cymbidium giganteum*, a *Warrea* from Guiana, the delicate blush-flowered *Eulophia guineensis*, a *Galeandra* from Santa Martha, something in the way of, but less handsome than *G. Baueri*, a well-bloomed specimen of which accompanied it, and a variety of *Peristeria elata*. From the same collection was also a *Saccolabium* from Bombay, not strikingly different from *S. guttatum*, together with *Oncidium tetrapetalum*, the green-flowered *Cynoches chlorochilum*, and a handsome variety of the comparatively new *Cattleya granulosa*. Along with these were likewise a lovely specimen of the bright orange-flowered *Dendrobium chrysanthum*, and the larger-flowered variety of *Epidendrum asperum*. A Knightian medal was awarded.—Mr. Glendinning, of the Chiswick Nursery, sent *Torenia concolor*, a lovely blue-flowered species introduced from China by Mr. Fortune. It has a trailing habit, and, in the present instance, was comparatively bare of blossoms; but when the plant shall have become better known, and more care bestowed on its culture, we have no doubt it will prove a worthy associate of the lovely *T. asiatica*, excelling the latter in beauty; for the flowers are nearly of as fine a blue as those of *Salvia patens*.—Messrs. Veitch and Son, of Exeter, sent *Aschynanthus radicans*, another handsome addition to that beautiful genus; and a soft-wooded Gesneraceous looking plant, from Java, named *Tromsdorffia speciosa*. It is an erect growing plant, with large opposite obovate leaves, from whose axils spring clusters of *Chirita*-like flowers—pale blush, with the tube shaded with violet; the plant had been grown in a stove, but in a specimen from the greenhouse, sent along with it, the tube was much deeper coloured. The ample and somewhat coarse foliage, however, will always hide much of the beauty of the blossoms. A certificate was awarded. From Messrs. Henderson, of Pine-apple-place, was the pretty bright red tubular flowered *Cuphea platycentra*, a half hardy plant, which answers well for bedding out; and *Satyrium aureum*, a Cape Orchid, which was stated to flower freely in peat in a cool well-aired greenhouse. Of florists' flowers, from the garden of the Society were *Achimenes grandiflora*, and a large mass of the old *A. coccinea*, the useful *Niphaea oblonga* covered with chaste white blossoms, a large *Cuphea pubiflora*, *Mussaenda frondosa*, with singular large white bracts and yellow flowers, *Oncidium microchylum*, the pretty yellow-flowered *Bletia*-like *Spathoglottis Fortuni*, one of the first plants Mr. Fortune met with on the granite mountains of Hong Kong, together with *Ischroma tubulosum*, a half-hardy shrub growing from 4 to 5 feet high, which was found by Mr. Hartweg on the mountains of Yangana, near Loxa. Notwithstanding its somewhat rambling habit and coarse grey downy foliage, it promises to be a plant of much importance, producing clusters of long flowers of a deep porcelain blue colour. From the same collection was also Mr. Fortune's *Abelia rupestris*, a spreading bush, with bright green leaves, and white flowers, surrounded by a slightly-stained rose-coloured calyx; being sweet-scented it will be a valuable autumn-flowering greenhouse plant, if it should not turn out to be hardy, which is probable. Along with it was a new pale yellow blossomed *Clematis* from Chinese Tartary, which, being hardy, will no doubt form a valuable addition to the arboretum wall.

DISTRIBUTION OF PLANTS IN SHRUBBERIES.—In thinning as well as in planting in the shrubbery, much may be done at this season to improve the general aspect of the place. The tasteful gardener must not fail to calculate the effect of height, and also the different kinds of foliage. Here he will have to cause an entire removal; there, displace by others more suited to preserve boldness or agreeableness in a particular direction. The beautiful idea of twilight contained in the lines of Gray,

“Now fades the glimmering landscape from our sight,”

may be quite realised in the noon of day by a certain adjustment of the various tints required to delineate the distance in perspective. The effects of contrast are also worthy of attention. The light poplar bending over the Portugal laurel; the portly bay or the sturdy holly, overshadowed by the handsome birch; the brawny trunk, overgrown by ivy, standing out in bold relief among foliage of a less decided character; all these, when tastefully distributed, are far more imposing and interesting than when jumbled together without design. The taste that dictates the clipping of holly or fir, box trees, trees and thorns, is of a very questionable kind; and but for regulating the natural habit, no shrub ought to be subjected to the knife or the shears. It is far prettier to see a bush growing unconfined than to see what we are not warranted in looking for, viz., a growing pyramid, a cone, or beehive. Again, strong cutting winds are sure to nip and stunt trees and shrubs of a soft texture; and, therefore, while we endeavour to make the shrubbery interesting, we must bear in mind that our trouble will be much augmented, unless we calculate the probable effects of winter and spring blasts. Some trees and shrubs will thrive and look very well for a time in one situation; but, perhaps, in a year or two we lose sight of them, from their not having kept pace with the others. TRATEX.

ON THE *RANUNCULUS*.—So much has been written on the culture of the *Ranunculus*, that the young florist has ample means of knowing how to manage this lovely flower with the fairest hopes of success; but I apprehend that a few remarks on the habits of this class of plants may not be unacceptable to your readers. From the experience of forty years, I am prepared to say that the *Ranunculus* delights in a moist soil and a rainy season. Last year was the most congenial to this class of plants I ever recollect of. Indeed so prosperous was it that many of the old varieties, such as *Naxara*, *Variat*, *La Tendresse*, *Brelange des Beautés*, and several others, sent up fine pericarps, commonly called eyes, from which, by impregnation, good seed has been saved. The frequent showers of 1843 induced most of the best seedlings which have for some years maintained a high character as good show flowers to yield large seed-vessels, so that many of the flowers were unfit for exhibition; but for this trick of youth they have amply compensated by producing a greater abundance of prime seed. The showing of the eye may be thought by many a great drawback on the value of a flower; yet it should be remembered that no flower shows such a perfect crown as one whose petals are supported by the seed-vessel, though it is well known that they will not do for exhibition after the pericarp is developed. But it is also certain that those that are semidouble will come perfectly double in a few years; and many that produce large seed-vessels in a congenial season will, in a dry spring, be entirely destitute of them, but generally inferior both in size and colour.

There is also in the *Ranunculus* what is by florists called a sportive character; that is, they run from their original colour: though this defect is not so glaring as in the *Tulip* and *Carnation*, yet it causes great disappointment to the ardent florist. Some that have yellow grounds delicately spotted will come plain yellow, and some red and white striped will come plain red; sometimes the colours will mix, and the flowers will become dingy. I have a beautiful modest flower, which some years ago obtained a first seedling prize; I called it "Innocent;" but the year before last it came so foul, that I wrote against it "Guilty." Last year, however, it resumed all the beauty and purity of its youth, which induced me to write against it "Acquitted." Cathcart, when it first bloomed, was a white ground, beautifully mottled with crimson; now it frequently comes with only a crimson spot; but in good seasons it will display all the beauties of its youth. Sometimes the flowers will be as green as the grass of the plants from which they grow. Some of the finest seedlings are weak, and therefore die in a few years, though for a short time they had great renown; such has been the case with *Abbé St. Andrew*, *Quixos*, *Viol le vrai Noir*, *Grand Berger*, and *Rose Incomparable*, and some others of later date. But there are others of first-rate character which are remarkably strong, and increase abundantly, such as *Attractor*, *Felix*, *Saladin*, *Edgar*, *Eureka*, *Victor*, and many others. If the last

season was very propitious for the *Ranunculus*, the present (1844) has been altogether as adverse, especially for the early-planted roots. The frosts by night and the drought by day have done much injury, and many have died. These are circumstances which try the patience and baffle the skill of the ardent florist; but let him persevere through all the diversity of seasons, and his efforts will be sure to be crowned with success. I have, during the last twenty years, raised many thousands of seedlings, out of which I have selected about two hundred; amongst them is one yellow-edged seedling called Edgar, which is so perfect in every respect, that the London florists pronounced it "a model flower," and many others of them have at exhibitions borne away the palm from their far-famed predecessors. I generally grow from twenty to thirty large beds, planted at various seasons; but the best time to secure a good bloom is to plant in the last week in February or the first in March.—*Gardeners' Chronicle*.

BUDDING RHODODENDRONS.—For stocks I layered the lower branches of *Rhododendron ponticum* last year, and they rooted beautifully. About six weeks ago I budded a number of them close to the soil, on the two-year old wood, which I find to work best, and scarcely a bud failed. Early in spring I intended to heel the stocks down to within an inch of the bud. By next autumn the plants will be well rooted, and may be cut off from the parent stool and planted in beds or borders. Last March I planted thirty plants of *Rhododendron ponticum* for grafting, in a brick pit covered with glass; being kept close, they were soon excited into growth, when I grafted them close to the surface of the soil with choice hybrid kinds; as soon as I imagined the grafts had united to the stock, I cut the latter down close to the graft, and by keeping the pit rather close all the summer some of them have made three growths, and are now fine bushy plants from a foot to 18 inches in height. A few which did not take I have grafted again to try how autumnal grafting will succeed. I did not tongue the grafts nor clay them; I merely tied the two cuts firmly together, and left them to take care of themselves. They have done well; but I am best pleased with the budding system.—*Gardeners' Chronicle*.

A SELECT LIST OF GREENHOUSE PLANTS.—A correspondent recently asking for a list of a few handsome plants for the greenhouse, I forward the following, which will meet his wishes in all respects, both as to beauty and a continuance of bloom. All of them are cheap, and may be had at most public nursery establishments.

A. Z.

Leschenaultia formosa, scarlet; *Hovea Celsi*, blue; *Pimelia spectabilis*, pink; *P. hispida*, pink; *Aphelaxis spectabilis grandiflora*, crimson; *A. humilis*, rose pink; *Azalea lateritia*, red; *A. exquisita*, variegated; *A. Gledstanesii*, white striped; *Erica depressa*, yellow; *E. aristata major*, crimson and black; *E. Massoni*, green and red; *E. ampullacea*, white and pink; *Gompholobium polymorphum*, crimson; *Tropæolum tricolour*, scarlet, black, and yellow; *T. brachyceras*, yellow; *Sollya linearis*, blue; *Polygala oppositifolia*, purple; *Boronia serrulata*, rose; *B. viminea*, pink; *Chorozema varium*, yellow; *C. scandens*, yellow; *Acacia pulchella*, yellow; *A. armata*, yellow; *A. verticillata*, pale yellow; *Eriostemon buxifolium*, pink; *Zichya coccinea*, scarlet; *Genista canariensis*, yellow; *Aotus vergata*, yellow; *Bossia disticha*, yellow; *B. linophylla*, yellow; *Brachysema latifolia*, scarlet; *Correa speciosa*, red and green; *Dillwynia juniperina*, yellow; *Epacris grandiflora*, white and crimson; *E. impressa*, pink; *E. nivalis*, white; *Mirbelia speciosa*, purple.

ON THE CULTURE OF IXORAS.—Being much pleased with the superior specimens of the scarlet, pink, and orange-coloured *Ixoras*, shown at the Chiswick, Surrey Gardens, and Regents' Park exhibitions, I shall be obliged by any instructions relative to their culture in an early number.

A BEGINNER.

(The following particulars on the cultivation of *Ixora coccinea* (scarlet) was

read at the West Kent Gardeners' Society, and which we extract from the Gardeners' Journal. The same kind of treatment is alike suitable to the other species named above, and we doubt not, but if adopted, will prove successful):—

“Mr. Cooper, of Bromley, read a paper on the cultivation of *Ixora coccinea*. He procured cuttings of the ripened wood about July, and planted them in five-inch or six-inch pots, which are found to be the most convenient size; these are nearly half filled with broken potsherds as drainage; a little rough peat is added, and the remainder is filled up with silver-sand, into which the cuttings are inserted. The pots are plunged in a tan or other bed, where they will have bottom heat, and can be kept close. If the cuttings get too damp, the glasses are to be removed for an hour or two, and then replaced. With a brisk moist heat they will root in about five or six weeks (sometimes sooner), and may then get a little air for two or three days, after which the glasses are to be removed altogether. If they are found to flag after removing the glasses, they must be replaced for a short period. As soon as they will stand without the glasses, they are to be potted singly into three-inch pots, and placed in a frame, hotbed, or stove. If in the latter, they must have a hand-glass put over them until they make fresh roots. The points of the shoots must be nipped off to make them bushy. In selecting cuttings, make choice of those with short joints, as they make the best specimens. If they are rooted in a brisk heat previously to July they may have a shift, but that entirely depends upon circumstances; generally it is best to let them remain in the small pots till the following February, when they may be shifted into six-inch pots, and placed in a light, airy situation, and where they will experience a gentle bottom heat. During the time they are growing they require plenty of heat, air, light, and water. If air is not freely admitted in the growing season they are apt to become weak and spindly; in consequence of which they will either produce weakly blooms or none at all; but with a temperature of from 75 to 80 degrees, with plenty of air, and shifted in February, they will produce short-jointed and well-ripened wood by September; after which they will stand in a temperature of 50 degrees until they are wanted to flower. By attending to this course of treatment, an early and good bloom will be secured. The soil he used was composed of two-thirds turfy peat, one-third turfy loam and Reigate sand, using it as rough as possible; the larger the plants, the rougher the compost is required. Water should be used sparingly in winter, and more freely as the season advances; and a higher temperature is required, which will be about the middle of January. Increase the heat as the season advances. If the plants are wanted for exhibition, and they are advancing too fast, remove them to a cooler place, but this must be done before a single bloom has expanded, the flowers being liable to drop then, on a sudden transition. After the blooming is over they will make their growth, set their blooms, and be prepared for a lower temperature during the winter. With proper attention they may be had in flower at almost any time in the year. He remarked that the one-shift system had proved a failure. His practice was to shift progressively, removing the plants from a three-inch to a six-inch pot, and from that to a nine-inch one, and then to a twelve-inch one, and so on. *Ixoras* are liable to be infested with all kinds of insects, such as the thrip, white and brown scale, mealy bug, green fly, and red spider. If the plants are well syringed at all favourable opportunities, both under the leaves as well as over the top of the plant, and not half done, the insects will be kept travelling, and will never do any mischief. It is when they lie up unmolested that they injure the plants.”

ON THE LILY OF THE VALLEY.—What is the best way of managing the Lily of the Valley at the end of the year, to induce a fine bloom in the spring? Mine were covered down with leaf mould last autumn, the soil being light and rich; they produced abundance of leaves, but the flowers were poor and scanty. The situation is not very exposed, but not under shade.—C. M.

[It blooms very freely when grown in a good loamy soil, having a dry substratum. We had a bed of it that was cultivated in such a soil, and the situation had the morning sun till about eleven o'clock, and they had the shade of some large trees growing at about a dozen yards distance, the remainder of the day. The cover-

ing applied could do no injury in winter, if not so thick as to induce the shoots prematurely to push forth, and this would the more affect them if retained as covering, later than the beginning of March. We saw a bed of them grown in a peat soil, and very few flowers were produced, but a vigorous foliage uniformly. We never covered the roots with any addition in winter, beyond a slight sprinkling of soil when digging the adjoining ground.—CONDUCTOR.]

ON ERANTHEMUM PULCHELLUM.—Blues amongst forced flowers are rare; therefore, this plant is very desirable. Struck from cuttings in the early part of February, and highly cultivated, they will make nice bushes by the early part of August, when they should be removed from the stove to the cool greenhouse, to check further excitement to growth. Introduced to a lively temperature of from 65° to 70° in the early part of November, and if possible to bottom-heat, they will blossom beautifully through December and January; when, if cut down disrooted, and carried through the same routine as the cuttings, they will make better bushes still by the autumn following—having more flowers in proportion to the foliage. These plants delight in abundance of moisture at the root, and are better kept in pans of water when in flower. Soil should be strong loam, peat, and leaf-mould.

ON MIGNONETTE.—Everybody's favourite, and is easily grown, provided good frame or pit room can be secured for it. Two sowings, the one about the first week in August, and the other three weeks later, will furnish plants for both autumn and spring. They may be sown in a small bed, and, when compact plants, may be transferred to 5-inch pots, putting five or six in each pot. They require much care on their removal, and must be placed in a close and moist atmosphere for a week; in fact they should receive cutting treatment. They enjoy abundance of light; no soil or plan will flower them in perfection unless they are near the glass. A back shelf in a pit, or a frame made up specially for them with the glass thoroughly washed, and the pots placed on, or rather plunged in, ashes, is the best situation for them.

It is necessary, in order to make the plants thick and stout, to pinch the terminal bud of each off when they are thoroughly rooted in the pots, and no before. Air must be given abundantly at all times possible. They must be well secured against severe frosts by plenty of covering, and kept somewhat dry at the root during the dark months of November and December. The soil may be two parts of turfy loam, and the third equal parts manure and leaf soil, to which is added coarse sand and charcoal siftings. CLERICUS.

ON FORCING HYACINTHS, &c.—The chief business is to get the root well established before growth commences, otherwise it is impossible to produce an early and strong bloom. Most of the failures are chargeable to the omission of this most important point; and the fault has not unfrequently been charged, most unjustly, on the roots. A soil composed principally of a mellow loam, with the addition of old cow manure and leaf soil, and a sprinkling of sharp sand and fine charcoal dust, will be found excellent material. Secure good drainage, and pot the bulb high—three parts above the level of the rim, taking care that the soil is in a mellow state, neither wet nor dry. They succeed by far the best in a cold frame, and it is most desirable that they should receive no moisture, beyond what the soil contains, until the pot is somewhat filled with roots. Those who have not the convenience of a frame may plunge them in cinder ashes in some sheltered spot, taking care to raise them above the ground level, for fear of water lodging. Take care, and let them be covered with six inches of some mellow material, such as old tan, old leaf soil, sawdust (if not too new), or ashes. Remove them to a warmer temperature as required; a few may be forwarded at a time, and so prolong the blooming season. FLORISTA.

BRAZILIAN SCENERY.—Learned naturalists describe these scenes of the tropics by naming a multitude of objects, and mentioning some characteristic feature of each. To a learned traveller this possibly may communicate some definite ideas; but who else from seeing a plant in an herbarium can imagine its appearance when growing in its native soil? Who from seeing choice plants in a hothouse, can magnify some into the dimensions of forest trees, and crowd others into an entangled jungle? Who, when examining in the cabinet of the entomologist the gay exotic butterflies, and singular cicadas, will associate with these lifeless objects the ceaseless harsh music of the latter, and the lazy flight of the former—the sure accompaniments of the still glowing noonday of the tropics? It is when the sun has attained its greatest height that such scenes should be viewed; then the dense splendid foliage of the Mango hides the ground with its darkest shade, whilst the upper branches are rendered, from the profusion of light, of the most brilliant green. In the temperate zones the case is different; the vegetation there is not so dark or so rich, and hence the rays of the declining sun, tinged of a red, purple, or bright yellow colour, add most to the beauties of those climes.—*Darwin's Journal of a Voyage round the World.*

Floral Operations for October.

All the particulars given in the Calendar in the last number (September) apply to the present also, to which we refer our readers. The following additional attentions will now be required.

In taking up *Tipidias*, &c., let all the soil be retained that will adhere, and allow the bulbs to be preserved therein; it will gradually dry, and the bulbs are preserved perfectly.

HYACINTHS and other bulbs for forcing should immediately be potted, also planted in beds, &c. See articles in former numbers on the mode of operations.

GREENHOUSE PLANTS yet out will require to be taken in by the middle of the month; if allowed to remain out much longer, the foliage will often turn brown from the effects of cold air. Where they are in all air should be admitted by day. The plants should not be watered over head at the close of the day. Water the soil too only in the early part of the day, if not so attended to the leaves will be liable to damp off. Loosen the soil at the surface frequently, it contributes much to health.

CHRYSANTHEMUMS be repotted, pinch off leading stems if not previously done. Large plants grown in the open ground may be taken up and potted, and with due care they will bloom fine.

Any tender plants, as *Lobelias*, &c., which have been grown in the open beds, and require to be protected in the cool frame during winter, should be potted in due time to preserve from injury.

ROSES.—By the middle of the month they may be planted. In purchasing take care to select such as are very firmly united between the rose and the stock, for when slightly united they are easily blown off.

China Rose.—Cuttings of, now strike freely.

Tender Roses grown out of doors during summer, and requiring to be protected in winter, should be removed by the end of the month.

SHRUBS.—All kinds may now be planted, watering well at the roots to settle the soil to the small fibrous ones.

TURF may be laid so as to root firmly before frost.

SHRUBS, &c., FOR WINTER BLOOM.—Such as are to bloom early should be prepared gradually, potted if required, and by the middle of the month introduce those to bloom by Christmas into the house or pit. The kinds which are well deserving such attention are *Roses*, *Honeysuckles*, *Jasmines*, *Azaleas*, *Persian Lilacs*, *Carnations*, *Pinks*, (*Anne Boleyn* is the best), *Rhododendrons*, *Aconites*, *Mignonette*, *Primroses*, *Stocks*, *Persian Iris*, *Crocuses*, *Cyclamens*, *Rhododas*, *Cinerarias*, *Ribes*, *Sweet Violets*, *Hyacinths*, *Lily of the Valley*, *Correas*, *Deutzias*, *Mezereums*, *Hepaticas*, *Gardenias*, *Heliotropes*, *Scarlet Pelargoniums*, *Cactuses*, *Franthemum Pulchellum*, *Justiceas*, *Gesnerias*, &c.

Univ. of
California



1. *CUPHEA MINIATA*.

2. *LYCIUM FUCHSIoidES*.

Floricultural Cabinet.

THE
FLORICULTURAL CABINET,

NOVEMBER 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

1. CUPHEA MINIATA.

SEVERAL new and fine-flowering species of this beautiful and interesting genus we have noticed in recent numbers of this Magazine, and we now record the present as a very strikingly handsome one. It has lately been introduced into this country from South America, and with us has bloomed in the plant stove; but, we are persuaded, it will be found to flourish well in the greenhouse, and it deserves to be in every one.

2. LYCIUM FUCHSIOIDES.

A native of the Azoques, in the Quintian Andes. It is a shrub much employed by the natives for hedges. It has flowered beautifully in the splendid collection in the Royal Gardens at Kew. The plant is four feet high, branching freely, and blooming liberally, producing through the entire season a fine display. It appears likely to do well in either plant stove, conservatory, or greenhouse, and none ought to be without it.

ARTICLE II.

DESCRIPTIVE LIST OF BEGONIAS,

BY MR. DONALD.

(Extracted from the *Journal of the Horticultural Society, Part II.*, and being a continuation of Article I., page 241.)

A. *Stems none.*

1. *B. rubricaulis*. Leaves all from the root, heart shaped, about five inches in breadth, of a dark green colour, and hairy on both sides. Flowers few, but beautiful, closely set together on the top of a footstalk of from eight to ten inches in length, covered with fine white hairs. This species, in some respects, resembles *B. albococcinea*, especially in the purple sepals and almost white petals, and, like it, blooms in autumn, and probably at other seasons.

B. *Stems creeping.*a. *Leaves palmate, equal at the base.*

2. *B. heracleifolia*. Stems short and creeping. Leaves palmate, from fourteen to sixteen inches across, of a dark green colour, and hairy on both sides. The most remarkable feature in this species is the footstalks which support the leaves; they are generally about two feet in height, and covered with strong white hairs rising from crimson spots, which, along with numerous short bright green streaks, give the plant altogether a singular appearance. Flowers pink, in loose panicles, elevated on hairy footstalks about three feet in height. It blooms in spring.—*Mexico*.

3. *B. crassicaulis*. Stems rather short, thick, and fleshy, inclining to creep, of a dull green colour; when young, thickly set with strong black hairs, having all their points turned upwards. Leaves palmate, measuring about 10 inches across, of a bright green colour, and partially covered with a soft brown substance beneath. Flowers white, produced in great profusion all over the stems. A deciduous species, flowering in spring before the leaves appear.—*Guatemala*.

b. *Leaves ovate, equal at the base.*

4. *B. fagifolia*, entirely covered with soft white hairs. Stems creeping, short jointed, and of a dull crimson colour. Leaves ovate, about two inches in length, remaining long on the stem. Flowers white, rather small, but produced in great profusion, and remaining

in perfection about two months. This, although it only blooms in spring, makes a beautiful object when grown on a trellis. Syn. *B. pendulâ*, *B. repens*.—*Brazil*.

c. Leaves oblique, ovate, acute.

5. *B. manicata*. Stems rather short, inclining to trail, green when young, and marked with a few white streaks. Leaves oblique, fringed at the margin, of a bright green colour, smooth on the surface, but remarkable for the depressed crimson scales, which are suspended from the veins beneath, increasing in size and number towards the footstalk, and forming a ruff where they unite. Flowers pink, in loose panicles rising about a foot above the leaves. It blooms in spring.—*Brazil*.

d. Leaves oblique, obtuse, often round.

6. *B. stigmosa*. Stems short, inclining to creep. Leaves oblique, sometimes nearly round, from six to eight inches in breadth, curiously fringed at the margins, of a pale green colour, smooth on the surface, and beautifully marked with dark purple spots. The veins on the under sides, as well as the long footstalks, are covered with soft chaffy-looking scales, giving the plant altogether a very mottled appearance. Flowers greenish-white, in loose panicles, rising six or eight inches above the leaves.

7. *B. Barkeri*. Stems very short and strong, lying close on the soil. Leaves unusually large, often a foot and a half across, and in form resembling a rhubarb leaf; smooth and shining on the upper surface, downy beneath, and supported by strong footstalks densely covered with dull green scales. Flowers white, produced in a huge mass on a footstalk upwards of four feet in height. It blooms in autumn, and at other seasons.—*Mexico*.

8. *B. ramentacea*. Stems short, and covered with depressed scales, which give them a very singular appearance. Leaves oblique, sometimes nearly round, from six to seven inches in breadth, dark green, and shining on the surface; crimson beneath, and covered with short forked hairs, gradually depressed towards the footstalks, which are covered in the same manner as the stems. Flowers pink, in loose panicles, consisting of twenty or thirty blooms. A handsome species, and one that appears to flower several times in the season.—*Brazil*.

9. *B. hydrocotylifolia*. Stems short, creeping on the soil in a congregated mass. Leaves about two inches in breadth, almost round, dark green, and shining above, crimson beneath, and covered with soft brown hairs, which gradually disappear as the leaves become old. Flowers pink, on loose panicles, rising six or eight inches above the leaves. A very pretty species, flowering in spring, and remaining for a length of time in bloom.

e. Leaves oblique, peltate.

10. *B. albo-coccinea*. Stems short, inclining to creep. Leaves peltate, oblong, of a dark green colour, covered when young with soft brown hairs which soon drop off, leaving them quite smooth on both sides; but still a soft substance clings to their footstalks, and gives them a rust-like appearance. Flowers in loose panicles of from thirty to forty blooms, elevated on footstalks about a foot and a half in height; petals pure white, contrasting well with the sepals, which are bright scarlet, especially on the outside.—*East Indies*.

C. Stems erect, seldom branching.

a. Leaves digitate, equal at the base.

11. *B. muricata*. Stems rough, from three to four feet in height, and of a dull green colour. Leaves digitate, consisting of from six to eight leaflets, three or four inches in length, hairy on both sides. Flowers white, rather small, but numerous, forming a close panicle, elevated on a footstalk about eight inches in height, which, like the stem, is also covered with a rough hairy substance. It blooms in autumn, and probably at other seasons. Syn. *B. digitata*.—*Brazil*.

12. *B. digitata* in some respects resembles the preceding. Stems erect, about three feet in height, of a dull crimson colour when young, and thinly covered with soft white hairs. Leaves digitate, consisting of from four to eight leaflets, or sometimes entire, assuming the usual oblique form, smooth, and dark green above, bright crimson beneath, and scattered over with a few white hairs. Flowers white, scarcely different from those of *B. muricata*. It blooms in summer.—*Brazil*.

b. Leaves oblique, partially lobed.

13. *B. dichotoma*. Stems strong, from four to five feet in height, inclining to branch, rough and channelled. Leaves large, sometimes measuring ten inches across, unequally toothed, of a dark green colour,

shining above, and smooth on both sides. Flowers white, in large clusters, suspended by long footstalks. Syn. *B. longipes*, *B. macrophylla*.—*Caraccas*.

14. *B. longipes*. Stems about five feet in height, very stout, becoming brown when old, and singularly dotted over with bright green spots. Leaves large, sometimes a foot in breadth, serrated, unequally lobed, of a dull green colour, and covered with short down-like hairs, especially on the under sides. Flowers white, in clusters, suspended by very long footstalks, generally from the upper portion of the stem. Syn. *B. macrophylla*, *B. odorata*.—*Mexico*.

c. Leaves oblique, ovate.

15. *B. papillosa*. Stems about four feet in height, thinly covered with white bristle-like hairs, which, as the wood becomes hard, drop off, leaving the latter beautifully marked with short white streaks. Leaves oblique, about four inches in length, gradually tapering to a point, very rough, and of a dark green colour, thinly set with short ridged hairs on both sides. Flowers rose-coloured, produced in rather large clusters, hanging on slender footstalks from the upper portion of the stems. This species blooms occasionally in the course of the season, but never in great abundance.—*Brazil*.

16. *B. dipetala*. Stems erect, rather stout, about four feet in height, of a dull green colour, and singularly marked with small scarlet spots. Leaves oblique, about six inches in length, thinly set with short hairs on both sides, dark green, except the veins which, like the footstalks, are crimson. Flowers pink, in graceful clusters, suspended on footstalks from three to four inches in length. This, with the two preceding, blooms during the spring and summer months.—*East Indies*.

17. *B. Meyerii*. Stems hard and woody, about four feet in height, beautifully coated with soft brown hairs. Leaves oblique, from six to eight inches in length, very soft and woolly on both sides. Flowers white, produced in rather dense clusters, suspended by footstalks six or eight inches in length, which are covered with a brown substance similar to that on the stems. It blooms during the spring months.—*Brazil*.

d. Leaves oblique, ovate, peltate.

18. *B. peltifolia* grows about three feet in height, stems rather woody, and these with the leaves are thickly covered with a white

woolly substance, giving the plant a very hoary appearance. Leaves peltate, about ten inches in length, very thick, and easily broken. Flowers white, in large clusters, suspended by footstalks generally more than a foot in length. Syn. *B. pauciflora*, *B. acida*, *B. peltata*.—*Brazil*.

19. *B. vitifolia*. Stems strong, from three to four feet in height, seldom branched, of a dull green colour, and covered with a brown woolly substance which falls off as the wood becomes hard. Leaves peltate, about eight inches in breadth, generally concave, unequally toothed, and slightly woolly, especially on the lower side. Flowers white, hanging in large clusters from the upper portion of the stem. This, with the former, blooms during the spring months.—*Brazil*.

D. Stems erect, branching, fleshy at the base.

20. *B. homonyma*. Stems from two to three feet in height, enlarged at the joints, and forming a large fleshy base, from which the young shoots spring. Leaves oblique, about three inches in length, inclining to divide into four unequal lobes, smooth on both sides, and generally of a dark green colour. Flowers pure white, generally in threes. This resembles *B. parvifolia* in habit, but may be at once distinguished from that species by its much larger leaves, which are always of a very dark colour. It blooms during summer and autumn. Syn. *B. sinuata*.—*Brazil*.

21. *B. parvifolia*. This species in almost every respect resembles the preceding, except that the stems grow somewhat more erect and are less disposed to branch. The leaves are of the same form and colour, and only differ in being about one-third larger. The flowers individually are similar both in size and colour, suspended in little clusters varying in number from three to five blooms. This, with the former, may be kept in flower during the greater part of the year. Syn. *B. floribunda*, *B. semperflorens*.—*Cape of Good Hope*.

22. *B. dregei* grows from two to three feet in height, much branched and swollen at the joints, especially towards the base. Leaves oblique, about an inch in length, very unequally toothed, quite smooth on both sides, and of a delicate green colour, passing gradually into a purple towards the margin. Flowers white, generally in pairs, and large in proportion to the size of the leaves. Syn. *B. parvifolia*, *B. floribunda*, *B. semperflorens*.—*Cape of Good Hope*.

*E. Stems erect, branching, not fleshy at the base.**a. Leaves oblique, ovate, acute.*

23. *B. Fischeri*. Stems branched, from two to three feet in height, dark crimson, and marked with a few small white spots. Leaves oblique, about two inches in length, slightly toothed, dark green above, quite smooth, presenting a very silky appearance, bright crimson beneath, and singularly crossed with large green veins. Flowers bluish coloured, very small, and generally in threes. It blooms in spring.—*Brazil*.

24. *B. rupestris*. Stems from two to three feet in height, small, but strong, of a brown colour when young, gradually becoming black, and resembling a bamboo in appearance. Leaves oblique, about three inches in length, waved at the margins, of a dark green colour, and beautifully marked on the surface with white silvery-looking spots. Flowers pink, generally produced in spring.—*Brazil*.

25. *B. acuminata*. Stems somewhat slender, from three to four feet in height, rising in great profusion from the bottom, quite smooth, and very little swollen at the joints. Leaves oblique, about three inches in length, rather narrow, and very unequally serrated. In general they are of a lively green colour, tinged with crimson, especially the veins beneath, which are thinly covered with white hairs, extending down the footstalks. Flowers pink, in clusters of from eight to twelve blooms, springing from the axils of the leaves, or the upper part of the stems. It continues to bloom through the whole year.—*Jamaica*.

26. *B. hirtella* resembles *B. acuminata* in habit. Stems from three to four feet in height, quite smooth, and slightly striated. Leaves oblique, serrate, from two to three inches in length, of a shining pale green colour, and hairy on both sides. Flowers almost white, in small clusters, generally produced towards the top of the stems. It blooms during the summer months. Syn. *B. acuminata*. — *West Indies*.

27. *B. Martiana*. Stems herbaceous, from three to four feet in height, a little swollen at the joints, of a pale green colour, and marked with a few short white streaks. Leaves oblique, from two to three inches in length, unequally toothed, and covered with a glaucous bloom. Flowers pink, generally in pairs, but in great

profusion: This very showy species blooms during the summer and autumn months. Syn. *B. diversifolia*.

28. *B. incarnata*. Stems about four feet in height, swollen at the joints, quite smooth, and marked with a few short white streaks. Leaves oblique, about six inches in length, dark green, waved at the edges, and thinly set with short hairs on the surface and margins. Flowers pink, in clusters of about sixteen blossoms, suspended on footstalks about four inches in length. Blossoms throughout the season.—*Mexico*.

29. *B. zebrina*. Stems strong, from three to four feet in height, channelled, of a dull crimson colour when young, and marked with a few pale green streaks. Leaves oblique, about six inches in length, bright green on the surface, beautifully marked with dark green shades underside; smooth and shining. Flowers pink, in clusters, suspended by rather short footstalks. Syn. *B. undulata*.—*Brazil*.

30. *B. Evansiana*. Stems herbaceous, from three to four feet in height, enlarged at the joints, which are of a bright crimson, in other parts they are of a pale green colour. Leaves oblique, from five to six inches in length, dark green on the surface, and red beneath. Flowers pink, produced in loose panicles, which continue in beauty from May to September. A common species often to be found in great perfection in the window of the cottager. Syn. *B. bulbifera*, *B. discolor*.—*China*.

31. *B. undulata*. Stems about three feet in height, gradually tapering towards the top, seldom branching the first year, of a pale green colour, quite smooth, and marked with short white streaks. Leaves oblong, from four to five inches in length, waved at the edges, pale green, smooth and shining on both sides. Flowers white, in large clusters, hanging down from the upper portion of the stems. It blooms in autumn.—*Brazil*.

32. *B. argyrostigma*. Stems from three to four feet in height, of a dull green colour, quite smooth, and marked with numerous narrow white streaks. Leaves oblique, about eight inches in length, dark green, quite smooth, and singularly blotched on the surface with silvery spots. Flowers almost white, produced in loose clusters, suspended by rather slender footstalks, generally from four to five inches in length. It blooms in spring and summer. Syn. *B. maculata*, *B. punctata*.—*South America*.

33. *B. odorata*. Stems about three feet in height, of a pale green colour, faintly striated, and tinged with crimson at the joints. Leaves oblique, about eight inches in length, bright green, quite smooth and shining, especially on the under side. Flowers pure white, in large clusters, suspended on rather slender footstalks, generally on the upper portion of the stems. Syn. *B. suaveolens*, *B. sinuata*. It blooms during the spring months.—*South America*.

34. *B. sinuata*. This is closely allied to *B. odorata*; the stem, leaves, and even the flowers appear to be very much alike in both species, and both bloom at the same season, but it differs from *odorata* in having the veins on the under sides of the leaves, and also a portion of the footstalks, slightly hairy. Syn. *B. odorata*.—*South America*.

35. *B. nitida*. Stems woody, long, and straggling, requiring a trellis to keep them up, and generally becoming bare at the bottom. Leaves oblique, from five to six inches in length, of a bright green colour, and smooth on both sides. Flowers pink, in clusters of from twenty to thirty blooms, suspended by footstalks about ten inches in length.—*Penang*.

36. *B. aptera*. Very like *B. odorata*, except in the stems, which are quite green, and apparently more disposed to branch. Leaves oblique, about six inches in length, quite flat and rather long pointed; of a bright green colour, smooth and shining. Flowers white, and produced in graceful clusters, similar to those of *B. odorata*. Like the preceding it blooms during summer and autumn.

37. *B. laurina*. Stems very strong, about four feet in height, branching, green when young, and marked with a few white spots. Leaves oblique, about two inches in length, beautifully serrated, dark green, and smooth on both sides. Flowers pink, in rather small clusters, but suspended in a graceful manner from the lateral branches. This, with the two preceding, blooms during the summer months.

38. *B. sanguinea*. Stems about three feet in height, of a dull crimson colour, and quite smooth. Leaves oblique, about six inches in length, dark green above, bright crimson beneath, and smooth on both sides. Flowers almost white, produced in clusters of from twenty to thirty blooms, suspended on footstalks from four to six inches in length. It blooms in summer and autumn.—*Brazil*.

39. *B. coccinea*. Stems from two to three feet in height, quite smooth, of a dull crimson colour, and marked with a few pale green streaks. Leaves oblique, about six inches in length, glaucous, and green on both sides. Stipules large, of a pale green colour, and membranaceous. Flowers bright scarlet, in loose panicles, rising from the axils of the leaves towards the top of the stem. Syn. *B. rubra*.—*Brazil*.

40. *B. ulmifolia* grows about three feet in height, branched, of a pale green colour, and thinly covered with short hairs. Leaves ovate, about three inches in length, serrate, pale green, and hairy on both sides. Flowers blush coloured, in little clusters, suspended by short footstalks from the upper portion of the stem. It blooms during summer and autumn.—*South America*.

41. *B. castaneæfolia*. Stems branched, slender, somewhat swollen at the joints, of a dull green colour. Leaves ovate, about an inch and a half in length, serrate, pale green, and smooth on both sides. Flowers blush coloured, borne on short spurs which are produced in autumn. Although this species flowers only in spring, and then not in such profusion as many others, still it possesses a neat habit, which renders it a desirable addition even to a small collection.—*Brazil*.

b. Leaves ovate, obtuse, often equal at the base.

42. *B. semperflorens*. Stems almost herbaceous, of a pale green colour, and between two and three feet in height. Leaves about two inches in breadth, nearly round, differing very much from the usual oblique form, bright green, smooth and shining on both sides. Stipules rather large, often adhering to the stem after the leaves have dropped off. Flowers pure white, in short panicles, rising from the axils of the young leaves. This is a very pretty species. Syn. *B. Hookeri*, *B. spatulata*, *B. grandiflora*.—*Mexico*.

43. *B. cucullata*. Stems from two to three feet in height, smooth, of a dark green colour, and slightly tinged with purple at the joints. Leaves oblique, quite blunt, from three to four inches in length, dark green, and smooth on both sides. Stipules very large, fringed, and of a pale green colour. Flowers resemble those of the preceding species, and it also keeps in bloom the greater part of the year. Syn. *B. spatulata*, *B. semperflorens*, *B. grandiflora*.—*Brazil*.

ARTICLE III.

ON VEGETABLE PHYSIOLOGY.

By J. TODD, DENTON GARDENS, LINCOLNSHIRE.

1. *The Roots of Plants.*

VEGETABLE physiology is that department of natural science which treats of the structure and constitution of plants. It considers every species of vegetable as an aggregation of nicely adjusted organs, each of which is designed for a particular function; and the changes produced by their mutual action, constitute what we call the vital principle, or life of the plant. Thus, for example, the root, stem, and leaves, are the chief organs of nutrition, and the flowers those of fructification; and so long as they remain subservient in the performance of their appropriate functions, the individual will continue to live, and possess the power of propagating its kind. Now as all plants that flourish beneath the gardener's fostering hand, are but so many beautiful combinations of these exquisitely-constructed parts, it follows that some acquaintance with VEGETABLE PHYSIOLOGY will prove of the greatest utility to every one concerned in the culture of a garden; as it furnishes correct knowledge of the structure of these several parts, and of their adaptation to certain definite purposes, as well as of their relative influence over each other, and of the influence of various modifying causes over the whole system.

Having made these prefatory remarks on this beautiful and interesting science, it now remains to detail its leading principles, and the method of reducing them to practice, and rendering them subservient in the ordinary management of a garden.

As the roots of plants are the chief medium through which they receive nourishment, some account of their structure, and of the curious and simple mode by which they effect their object, will occupy the remainder of this paper. The root may be defined to be, that portion of a plant which grows in an opposite direction to the stem; and differing from the latter in its remarkable downward tendency, and from its disposition to shun the light of day. So powerful, indeed, is this tendency to descend, "that no known force is sufficient to overcome it." The chief object of the root appears to be that of fixing the plant firmly in the earth, and of taking up a supply of moisture from the humid medium by which it is surrounded. It usually con-

sists of several ramifications, from the sides and extremities of which, without any apparent order or regularity, proceed an indefinite number of delicate fibrils with spongy points. Now these fibrils are the only true roots, and to their soft extremities (spongelets) is consigned the whole office of absorbing fluid; the more woody portions of the root merely serving as canals, to convey the fluid thus obtained to the upper parts of the plant. The roots generally pierce the soil in a downward or horizontal direction, according to the individual habit, but more especially in that course which offers the least resistance, and yields the greatest quantity of soluble food. Hence the propriety of *mulching* is by some gardeners called into question, because the richness of the mulching material, and the warmth produced by its fermentation, has a tendency to attract to the surface the young fibrils. And then upon the removal of the manure employed in the operation, their extremely succulent and tender tips become exposed to the influence of draught, &c., than which nothing can be more injurious, as it quickly destroys their absorbing power, and thus deprives the plant of its chief source of nourishment. It has been said that the fibrils are the only true roots, and that the feeding function is chiefly consigned to the lax tissue of their extreme points. That this is really the case, there can be no reasonable cause to doubt, or why should the success of planting depend so materially upon their preservation? it being a well-known fact, that subjects of any size, such as fruit trees, are invariably less prolific the first season after transplantation, than on the previous and ensuing years. Why these little spongelets should possess the power of absorbing moisture with great force, and of transmitting it to every part of the plant, is a curious question, and has given rise to many ingenious conjectures. But it has at length been satisfactorily answered by that clever French author, M. Dutrochet. If a small glass tube, having its end covered with a piece of bladder, be partially filled with gum-water, and then plunged into simple water, sufficient to wet the outside of the bladder, the latter will be permeated by the water, and the volume within the tube will continue to increase, so long as the density of the fluids on each side of the intervening membrane remains unequal. "But there is also a contrary current to less amount,—the interior fluid passing out to mix with the surrounding water." The first and more powerful of these currents is called endosmose (flow inwards), and the second and less

powerful, exosmose (flow outwards). The cause of their motion was by Dutrochet referred to galvanism; but it is now more generally believed to arise from "the attraction exerted between the particles of the different fluids employed, as they meet in the porous membrane." (Dr. Reid.)

"Now the conditions requisite for this action, are two fluids of different densities, separated by a septum or partition of a porous character. This we find in the roots. The fluid in their interior is rendered denser than the water around by an admixture of the descending sap; and the spongeole (or spongelet) supplies the place of a partition. Thus then, as long as this difference of density is maintained, the absorption of fluid may continue. But if the rise of the sap is due to the action of endosmose, there ought also to be an exosmose. This is found to take place; for if a plant is grown with its roots in water, the fluid surrounding them is soon found to contain some of the peculiar substances they form, and which are contained in the descending sap: thus a pea or bean would disengage a gummy matter; a poppy would communicate to the water an opiate impregnation, and a spurge would give it an acrid taste.

"Thus we see how beautifully and how simply this action, extraordinary as it seems, is accounted for, when its whole history is known, on principles which operate in other departments of nature." (Dr. Carpenter.)

From this it must appear obvious to every one, that to keep plants in a healthy state, the conditions of endosmose and exosmose must be carefully maintained. Thus in the case of bulbs, maturing and at rest, and of plants cut down in the autumn, such as *Pelargoniums* and *Fuchsias*, the actions of the leaves being destroyed, the fluid, rising by the force of endosmose, must gradually subside, and the plants languish into a state of semi-vitality, till such time as genial warmth shall expand the fluid within their latent buds, and cause them to open and put forth new leaves. This is the reason why the application of water to plants thus circumstanced should be carefully avoided, excepting indeed a few special subjects, whose succulency is not sufficient to keep them from being shrivelled up.

ARTICLE V.

REMARKS ON OBTAINING DWARF BLOOMING PLANTS OF
NERIUM SPLENDENS.

BY A LADY FLORIST.

DURING the past summer, I flowered a few dwarf plants of *Nerium splendens*, by the following method :—In April I looked over my old plants, and discovered those shoots which had a leading bud of blossom ; I then took a small garden-pot, knocked the bottom out, and carefully drew the shoot through, at about six inches below its crown ; I notched the stem like a Carnation, putting a bit of soil to keep the tongue open. I then tied a piece of sheet-lead under the pot, to enable me to fill it with fine rich soil. I pressed the soil tight, and placed the plant in a hothouse for a month ; the layers rooted speedily. I then cut it off the parent, re-potted into a larger pot, kept in the hothouse a fortnight longer, which was then the first week in June, and a most beautiful bloom succeeded upon all the plants, and they not more than a foot high. A free supply of water was given, whilst striking root, as well as subsequently. I beg to assure the readers of the CABINET that the plan is worth trying. I should be glad for this to be inserted in your next Number.

REVIEW.

Practical Hints on the Culture and General Management of Alpine or Rock Plants. By James Lothian, Gardener to W. A. Campbell, Esq., of Ormsary. To which is also appended a list of Alpines, Ferns, Marsh, and Aquatic Plants, &c. Illustrated with Coloured Plates.

THIS neat little book supplies a vacancy which it was very desirable should be occupied. The author has very judiciously given practical and useful instruction on the subject he treats upon, and the work is well worth possessing. We extract the following as a specimen :—

“ *Situation.*—In treating of situation (the first thing to be observed in choosing a locality for the formation of the Rockery), one must be to a certain extent guided by the nature and style of the place, besides the taste of the proprietor. But again regarding the selection of a situation to suit the plants, it is on this account neces-

sary, that the site be neither shaded, nor yet too much exposed. Let it be an open, airy, but, at the same time, a sheltered place. It may adjoin the flower-garden, or be in the vicinity of the shrubberies and kitchen-garden, and should a suitable situation present itself along the walks or drives leading through the woods or pleasure-grounds it might form as desirable a site as any. It is, however, to be understood, that it is not meant to be exactly along the margin. A little off the walk would be more desirable, with a path leading to the Rockery.

“Perhaps too much attention cannot be paid to the choice of a proper situation ; for though these plants are natives of high bleak localities, where they enjoy the purest atmosphere ; and though in their native habitats, they endure a great degree of cold, still, when introduced into our gardens, and planted upon a Rockery, many of them will neither stand the winter frosts, nor yet bear the strong and sharp gusts of wind. The former, alternating with mild weather, keep a degree of vitality in their system, which they do not experience in their Alpine abodes, and thus they are more exposed to injuries from the latter.

“*The Rockery.*—In the formation of the Rockery, there are other objects to be attained besides the imitation of nature. The rock-work must be so constructed as to insure the preservation and successful growth of the plants. It may be made any size the projector chooses, and various forms may be adopted and indulged in ; but the plainer these are the better. And it should always be kept in view, to make it of the most fanciful structure, so as to show off the different kinds of plants, by which means it has the most effective display and appearance.

“There is no great difficulty, nor need any great expense be incurred in the formation of the Rockery, when the locality is near the sea-shore, as abundance of materials for this purpose are quite at hand, such as stones worn into different shapes by the waves, and some containing cavities, the use intended for which will be described hereafter.

“In making up the Rockery, the space it is to occupy in the first place, must be cleared of any rubbish thereon, the ground then levelled, and the ground figure properly marked out. Then the earth taken out of the pond may be laid down where marked ; but should this soil not be of a kindly nature for the plants, that is, should it be

of a cold clayey kind, when coming near the desired height, it will be well to mix up some good soil, and lay a thick stratum of it on the surface. The kinds of soil requisite will be presently described. Then proceed with laying the stones on properly and tastefully. Let a good many of those above referred to, as containing holes or cavities, be placed on the north side of the Rockery, for mosses, ferns, &c., while, at the same time, a good many of them may be distributed over the whole for *Sedum*, *Sempervivum*, *Saxifrage*, *Mesembryanthemum*, &c. Then let the crevices between the stones have some earth put in. The soils may be distributed as follows:—

“*On the North Side of the Rockery.*—On one part a mixture of black peat or bog-mould, leaf-mould, and sandy loam; in another, red gravelly or ferruginous soil; and along the base on this side, an adhesive or clayey kind. Perhaps the soil from the pond, and placed here in the formation, may be sufficient. In these varieties of soil, the larger ferns, *Osmunda regalis*, and Alpines, *Adoxa*, *Chrysosplenium*, *Marchantia*, &c., can be grown.

“*On the South and two ends.*—A mixture of light sandy loam and peat, containing a good deal of white sand, for, *Helianthemum*, *Iberis*, *Stachys corsica*, *Achillea tomentosa*, *Saxifraga*, &c.

“*On the top of the Rock-work.*—Very light loam, and a little peat and white sand, for such as *Thymus serpyllum*, *Saxifrage oppositifolia*, *Rhodiola rosea*, &c. The latter is common in various Alpine districts, and is found abundantly among the rocks on the south-west coast of Argyleshire.

“Along the margin of the pond, and on the Rockery, soil composed of sandy loam and a good deal of gravel (not too coarse); or, what suits better, where it can be had, stone, or rather slate crumbled away into a resemblance of soil. It is found plentifully on the banks of mountain streams. As to the soil suitable for the cavities in the stones, it will be described under the head Arrangement.

“After having distributed the soil, &c., petrifications, marcasite, or any other curious or rare specimens of minerals, may be placed here and there among the stones, wherever suitable; but at the same time, it is necessary not to interfere with the plants, or the situations they are to occupy.

“It is further desirable that around part of the rock-work (at the base) a border should be formed. Should your locality permit, per-

haps the south-west side may be as desirable as any. This border should be made up with peat, containing abundance of white sand and small white stones, for some of the *Erica* tribe, *Azalea procumbens*, *Arbutus alpina*, &c. These thrive most luxuriantly in this kind of soil. We have observed them half-way up Ben Nevis, and found there specimens of the latter plant in full fructification. Another portion of this border should be composed of sea-sand and gravel, with the addition of some peat well incorporated, for such as *Lithospermum maritimum*, *Glaux maritima*, &c., which are not by any means easily preserved, or cultivated in any other soil. Some large and curious stones may be placed here and there along the border."

PART II.

MISCELLANY

OF

NOTES AND CORRESPONDENCE.

New or Rare Plants.

ABELIA RUPESTIS. A deciduous shrub, which has bloomed in the greenhouse at the Horticultural Gardens, but it is supposed to be hardy. The flowers are small, white, funnel-shaped, very sweet, and borne in racemes. The calyx is rose coloured.

ACHIMENES ILLICIFOLIA. We have bloomed this, and apprehend it to be a variety of *A. longiflora*, from which it differs in the darker colour of its flowers, and the broader ray of white around their centre. The under surface of the leaves too, are of a deep sanguineous hue, and their edges more deeply serrated.

ADENIUM HONGHEL. THE HONGHEL BUSH. Apocynæ. Pentandria Monogynia. (Bot. Reg. 54.) It is a hothouse shrubby plant, a native of the East Indies, found at Wallo and Senegambia, Delagoa Bay, &c. It forms one or two fleshy stems like those of a *Plumiera*, or some of the *Euphorbias*. It is a slow growing plant. The flowers are produced in heads at the ends of the shoots. Each blossom is an inch and a half across, flesh coloured with bright crimson edges, and a yellow eye. They are very handsome.

ÆSCHINANTHUS LOBBIANUS. MR. LOBB'S *ÆSCHINANTHUS*. Cyrtandraceæ, Didynamia Angiospermia. (Bot. Mag. 4260.) A native of Java, sent by Mr. Lobb to Messrs. Veitch's. It is a straggling branching shrubby plant, the stem and branches a deep purple colour. The flowers are produced in terminal corymbose heads. The calyx is one inch long, a rich shining purplish-black colour. The corolla is about an inch and a half longer than the calyx, of a brilliant scarlet, and the contrast with the dark calyx is strikingly beautiful. It is a most desirable plant, deserving to be in every hothouse.

VOL. XIV. No. 165.

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ÆSCHINANTHUS RADICANS. A stove plant. The flowers grow in terminal clusters, tube-shaped. A dull red colour, with the limbs whitish, streaked with purple inside. It is an abundant bloomer, very showy. It is in Messrs. Veitch's collection.

AGNOSTUS SINUATA. A handsome evergreen woody erect plant, a native of New Holland. The leaves are usually about six to eight inches long, oblong. The flowers are produced in large panicles of twelve or more in each. A separate blossom is an inch long. Their prevailing colour is, when open, the most vivid orange scarlet; the segments are pale yellow at the tips and a shining black or brown colour at the base. The flowers are peculiarly singular in form and colour, very handsome, borne in profusion, and render it one of the most splendid plants that has been introduced. It is a greenhouse plant, and where a plant of its dimensions, three or four feet high at least, can be grown, it ought to be therein. It has been in this country several years, and in several collections, but appears only just now bloomed for the first time. It may be procured at a very reasonable price.

BARKERIA LINDLEYANA. DR. LINDLEY'S. Orchidacæ. Gynandria Monandria. (Pax. Mag. Bot.) The flowers are produced in long spikes. Each blossom two inches in diameter. Sepals and petals a beautiful rosy-crimson. Labellum oblong, a little more than an inch long. The upper half rosy-crimson, with a striking white spot in the centre; the lower half is a deep crimson. It is very handsome.

BRASSAVOLA DIGBYANA. MR. DIGBY'S. Orchidacæ. Gynandria Monandria. From Honduras, and has bloomed in the collection of E. V. Digby, Esq., at Minsterne, in Dorsetshire. The flowers are very large, sepals and petals five inches across, greenish yellow. Lip about three inches across, much fringed, yellowish-white. They are peculiarly sweet. It well merits a place in the stove.

CALYCOTOME SPINOSA. THE SPINY. Fabacæ. Monadelphia Decandria. (Bot. Reg. 55.) Synonyme *Cytisus Spinosa*. A pretty shrub, will stand the usual winters. It blooms most profuse, flowers a rich yellow. Has bloomed in the Horticultural Society's Garden.

CHIRITA MOONII. A new species raised from seed in the Kew Gardens, it has not yet bloomed, but in habit appears to resemble *C. Zeylanica*, and has ovate-acute leaves, about the size of those of that kind.

CLEMATIS SMILACIFOLIA. SMILAX-LEAVED. (Bot. Mag. 4259.) Introduced by Messrs. Veitch's from Java. The plant is a climber, extending to a great length. The leaves are large, each eight or nine inches long, and five broad. The flowers are produced in paniced terminal racemes, they are about an inch long; sepals reflexing quite back, they are of a glossy black; the numerous pistils are white and silky. It will make a fine conservatory or greenhouse climber.

COCHLEARIA ACAULIS. Found wild, according to Brotero, on the basaltic hills near Lisbon, and occasionally on the limestone formation of Estramadura. Desfontaines also met with it in Barbary. A beautiful rock plant for shady situations; its flowers are of a clear lilac, and the foliage is of a delicate green colour. It propagates itself by seeds, and by runners which throw out roots abundantly into the damp soil. It is a hardy little annual, growing in any rich garden soil, and blooming from April to October. It requires rather a moist situation.—*Hort. Soc. Jour.*

CYPRIPEDIUM IRAPEANUM. Irapean. LADY'S SLIPPER. Cypripedæ. Gynandria Monandria. The flower is a rich yellow, with slight spots, and two red blotches on the labellum. The figure here given is four inches across, but the flower usually grows to double the size. The plant is at present in the garden of the Horticultural Society. It is a noble species. Mr. Linden has discovered in Caracæa a species that has flowers from fifteen to twenty inches long; the petals are drawn out into narrow straps of such length.

DAPHNE FORTUNEI. A small downy-branched shrub, sent by Mr. Fortune

from the Chusan Hills, Ningpo and Shanghai, and stated to be used by the Chinese in the same manner as the *Mezereum* in Europe. The flowers are pale bluish lilac, arranged in clusters of four upon branches scarcely beginning to put forth their leaves. They are rather more than an inch long, covered externally with soft, closely-pressed hairs, and divided in the border into four roundish, oblong, obtuse, uncren lobes. No species yet described approaches very nearly to this, which has been named after its enterprising discoverer. The seeds being unknown, it can only be conjectured that it belongs to the *Mezereum* division of the genus. It is a greenhouse, or perhaps half-hardy shrub, and grows freely in a mixture of sandy loam and peat. During summer an ample supply of water should be given, and air at all times when the weather is favourable. In winter it must be kept quite cool, in an airy part of the house; and being deciduous, very little water will be required during the absence of its leaves. It may be propagated by cuttings of half ripe wood under ordinary treatment. It is a charming addition to our greenhouse plants, more especially since it appears to be well adapted for forcing.—*Hort. Soc. Jour.*

GARDENIA DEVONIANA. A native of Sierra Leone. It is a vigorous shrubby hothouse plant, much in the way of *G. Stanleyana*. The flowers are produced solitary, and before expansion are ten inches long, pure white at first, but gradually change to a pale yellow. At first they have much the resemblance of a long-tubed white lily. It has bloomed in Mr. Glendinning's collection at Chiswick.

GOMPHOLOBIUM VENUSTUM. GRACEFUL. Leguminosæ. Decandria Monogynia. (Bot. Mag. 4258.) A native of South Australia. A dwarf shrubby plant, branching freely, and blooming profusely. The flowers are produced in terminal corymbose heads, of a very rich rosy-purple colour. It is a most lovely plant, deserving to be in every greenhouse. It is in the collection of Messrs. Lucombe and Pince, of Exeter.

LYCHNIS, spec. Sent to the Horticultural Society by their collector when in China. It possesses an upright shrubby habit, and produces a branching spike of flowers about two feet high. Each bloom is about an inch and half across, of a delicate bluish colour, and the petals being irregularly lacerated at the ends, gives it a pretty appearance.

NIPHEA RUBIDA. An interesting plant with oval crenate leaves, the ribs underneath, and stalks of which are densely covered with deep red hairs, whilst the upper surface is hoary. The flowers are white. It has bloomed in our collection.

NYMPHÆA DENTATA. TOOTH-LEAVED LOTUS. Nymphæaceæ. Polyandria Monogynia. Introduced from Sierra Leone by Messrs. Lucombe and Pince. It is a very fine stove aquatic. Calyx green with white streaks. Petals white. Stamens and stigma rich yellow. Each flower is six inches across. It is a very noble species.

PIUMNA LAXA. LOOSE-FLOWERED. Orchidææ. Gynandria Monandria. (Bot. Reg. 57.) Mr. Hartweg found it in the woods of Popayan. It has bloomed in the collection of the Horticultural Society. The flowers are produced in loose racemes. Each blossom two inches across. Sepals and petals pink, green, and white in stripes. Labellum white. A new genus, very interesting.

PLATYLOBUM FORMOSUM. BEAUTIFUL FLAT PEA. Leguminosæ. Diadelphia Decandria. A native of New Holland. It is a very handsome flowering greenhouse shrubby plant. The flowers are produced in profusion; each blossom an inch across, a rich deep yellow with a red eye. The back part of the petal is margined with deep crimson. It blooms through spring and summer, and ought to be in every greenhouse.

PLEROMA ELEGANS. THE ELEGANT. Melastomaceæ. Decandria Monogynia. (Bot. Mag. 4262.) Sent from the Organ mountains by Mr. Lobb to Messrs. Veitch's. A stove shrub, four feet high. Flowers freely, produced terminal. Each blossom 2½ inches across, a most rich velvety-purple. A very splendid flowering species. A valuable acquisition to any hothouse.

PLUMBAGO ZEYLANICA. Received from Sir Henry Fletcher, and collected in the neighbourhood of Jellalabad in 1843. A twining plant, with dull green striated branches; in no apparent circumstance different from the Ceylon Leadwort or from the climbing Leadwort of South America, neither of which seems to be distinguishable. The flowers are pure white, with a little point at the end of the lobes of their corolla. Its northern station appears, however, to indicate some constitutional difference, and this in fact occurs; for, as far as the experience has gone, the plant is probably hardy enough to withstand the winter if planted against a south wall. It is rather pretty, likely to bloom freely, and prove hardy, or nearly so.—*Hort. Soc. Jour.*

SCUTELLARIA, spec. In the Kew Gardens has just bloomed this new species, which exceeds in the rich colour of its flowers even *S. splendens*. It is a very brilliant plant, and will probably be called *S. coccinea*.

NEW PLANTS NOTICED AT KEW GARDENS, &c.

The Royal Gardens at Kew Palace.—**GLOXINIA TUBIFLORA ROSEA.** This is a valuable contrast with the white one, both bloomed beautifully.

BEGONIA FUCHSIODES. Quite new, not yet bloomed.

GARDENIA BOWRIANA. Quite new, not yet bloomed.

HOYA MOLLIS. Quite new, not bloomed.

ECHEITES MELALEUCA. Quite new, not bloomed. The leaves have pure white midribs.

VERNONIA AXILLARIS. The flowers are produced in corymbose heads, blue at first, changing to nearly white.

ABUTILON GIGANTEA. Not bloomed; said to be fine.

GLOXINIA CITRINA. Tube flesh colour outside and nearly white inside; the mouth having a beautiful rosy circle. Very pretty.

BEGONIA RAMPANTACEA. Not bloomed.

BEGONIA UNDULATA. Flowers pure white, hanging, in pendent spreading panicles. Very pretty.

CHIRITA ZEYLANICA. The flower in form much like a Gloxinia, and about half the size of one. Outside of the tube and mouth blue, inside the tube white. Very pretty.

ACHIMENES ILICIFOLIA. Holly leaved. A new sort, not bloomed.

At Mr. Low's, of Clapton Nursery.—**SIPHOCAMPYLUS NITIDA.** New, not bloomed.

TORENIA. A new species. Flower $1\frac{1}{2}$ inch across; a deep blue.

LONDON HORTICULTURAL SOCIETY, Oct. 6.—Of Orchids there were several collections. Mr. Rae, gardener to J. J. Blandy, Esq., of Reading, sent the lovely lilac-flowered *Lælia Perrinii*, with deep purple-edged lip; *Cattleya Loddigesii*, and the rare *C. Aclandiae*, a beautiful species, but whose flowers are rather scantily produced; also the white-blossomed *Dendrobium formosum*, together with *Lycaste cincta*, and the pretty little chocolate spotted, buff-flowered *Maxillaria Rollissonii*. From the same collection were also *Miltonia candida*; the white-lipped *Zygopetalum rostratum*; the small white-blossomed *Epidendrum multiflorum*; *Oncidium papilio*; the white-lipped *Trichocentron fuscum*, and the chaste white-flowered *Phalenopsis amabilis*; a large silver medal was awarded. Another remarkable group came from Messrs. Rollisson, of Tooting. It comprised the bright orange-blossomed *Epidendrum vitellinum*, the rare *Warrea bidentata*, a species something resembling *W. tricolor*; *Camaridium ochroleucum*; the rather sought-for, but not very handsome, *Galeandra Baueri*; the red variety of *Rodriguezia secunda*; *Miltonia candida*; and a variety of *M. Clowesii*; *Phalenopsis amabilis*; the scarce *Oncidium ciliatum*; and the pretty *Demerara* plant, *Aganisia pulchella*; a Knightian medal was awarded. Other Orchids came from Messrs. Loddiges and Sons, consisting of *Miltonia candida*; the scarce *Stanhopea bucephalus*, which emits a pleasant odour something like Friars' Balsam; and the scarce *Dendrobium rhomboides*, a pretty species, having much general resemblance to *D. aureum*, but with smaller blossoms. The collection also contained a species of *Dendrobium* from Java, re-

sembling *D. Heyneanum*; the rare *Angræcum bilobium*, a pretty epiphyte with long pendulous racemes of white flowers, which are slightly perfumed; and *Oncidium incurvum*; a Banksian medal was awarded. From Mr. Redding, gardener to Mrs. Marryat, was a beautifully-bloomed *Odontoglossum grande*, for which a Banksian medal was awarded; and with it some heads of sweet Indian corn, for the production of which the late hot summer has been favourable. They make a very excellent article of food, boiled and dressed. From C. B. Warner, Esq., was a tall *Oncidium unguiculatum*, a new and distinct species, not showy, but having the merit of remaining long in flower, which was rewarded by a Banksian medal; and along with it a pot of *Ginger*, with reed-like stems, and oblong heads of flowers. Mr. Don, gardener to F. G. Cox, Esq., sent a group of *Orchids*, in which were *Gongora maculata*, with long drooping spikes of brown-spotted blossoms; the rare *Cattleya bicolor*, whose sepals and petals, being of a dull olive green, contrast well with the beautiful deep violet lip; *Trichocentron fuscum*; *Epidendrum lancifolium*, a species much resembling *E. cochleatum*, but readily known by its purple-lined regularly ovate sharp-pointed lip; *Angræcum caudatum*; and the rare, warm, brown-coloured *Houlletia Brocklehurstiana*, for which a Banksian medal was awarded. Mr. Dobson, foreman to Mr. Beck, sent a nice specimen of *Oncidium leucochilum*, *Galeandra Baueri*, and a lovely dwarf specimen of *Achimenes patens*, concerning which it was mentioned that it had been struck from leaves inserted in sand in June, potted off into small pots in July, and, after being well rooted, put into slate pans in August, thus offering a ready means of obtaining nice dwarf plants at this season; a certificate was awarded for the *Oncidium*. Messrs. Veitch and Son, of Exeter, received a Banksian medal for a new *Hoya*, named *campanulata*, producing a bunch of some 16 or 20 bell-shaped, waxy, cream-coloured flowers about the size of a shilling; although not to be compared with the old *H. carnosa*, as regards beauty, yet it forms a very excellent and pleasing variety. It was stated to have been sent from Java by Mr. Lobb. The same nurserymen also received a Banksian medal for a fine specimen of *Æchynanthus Lobbianus*—the same plant which was exhibited at the Society's Garden Exhibition in July. Thus, in addition to its intrinsic beauty, it has the merit of remaining long in bloom. It was mentioned that bottom-heat had been found beneficial to this genus. Accompanying these was also a specimen of *Fuchsia serratifolia*. The species having got the name of being a shy bloomer, this plant was sent to prove that, under proper treatment, it may be induced to flower well—as the plant exhibited certainly proved; although somewhat shaken by travelling. Messrs. Veitch attribute its not flowering well with some to arise from their growing it too freely, by putting it in too rich soil, and giving it too much pot-room, and also to giving it too much heat. It has been proved that small pots, common garden soil, and exposure to the open air from May is the best mode of growing it. It also is said to thrive and flower well planted out in the common soil of the garden. Of Dahlias there were beautiful collections from Mr. Cutter, of Slough, and Mr. Turner, of Chalvey, in whose group were several seedlings of 1845. A seedling of the same year, named *Demosthenes*, was also sent by Mr. Maher, of Fifeild, Berkshire; and, finally, a beautiful collection of autumnal Roses was produced from the nursery of Messrs. Paul and Son, of Cheshunt. Specimens of potatoes were sent by Mr. Barnes, of Bicton, to prove that insects are the cause of the prevailing disease; and Mr. Ayres, of Brooklands, again showed a sample of his new bast from Cuba.—From the garden of the Society were *Epidendrum ceratistes*, a species introduced by Mr. Hartweg; the flowers are very like those of *E. selligerum*, and are rather sweet-scented; *Oncidium leucochilum*; immense masses of the old *Achimenes coccinea*; and *Sedum Sieboldii*, the latter of which is always brought at this season. From the same collection was also a plant of *Batatas Jalapa*, a Mexican perennial, having a great tuberous root, which appears to be one of the kinds of *Jalap* formerly used in medicine, and quite distinct from the *Ipomœa macrorrhiza*, of Michaux, which has been confounded with it, and whose root, which weighs, it is said, 50 or 60 lbs., is eatable. It is a climbing plant, like a *Convolvulus*, with handsome large rose-coloured flowers and deep green leaves. It has been long lost to our gardens, and as it is an object of considerable beauty, its re-introduction is a matter of

some importance. From the same collection were also cut flowers of *Buddlea Lindleyana*, one of the first things Mr. Fortune met with in the Island of Chusan, and which was thus proved to be a really handsome object. It has, however, hitherto hardly realised the expectations formed of it, which may be partly owing to two circumstances; it has been treated much too kindly—too much heat and rich soil causing it to grow over luxuriantly, and consequently to produce few flowers. It has been found that the plant requires age to flower well, and with these two requisites, age and rather poor soil, we imagine it will prove itself to be (as it has certainly done in the Society's garden) one of the very best autumn flowering shrubs we possess; for its large racemes of deep lilac flowers are very handsome, and, produced in sufficient abundance, produce a magnificent display. Along with it were blooms of Mr. Fortune's *Anemone japonica*, from the open border, to which the plant promises to become a very important addition, for at this season, when our autumn flowers begin to disappear, this is just coming into beauty. Blooms of *Torenia concolor* (another of Mr. Fortune's plants) were also exhibited, whose lovely blue colour renders the plant a very charming object. Being a native of marshes, it will, however, probably not succeed well in a dry situation.

ON HARDY HEATHS.—Observing that a correspondent requests a list of those kinds of Heaths that will flourish in the open air in this country, and being an equal admirer of that very interesting and beautiful genus of plants, I forward you the list of those I cultivate, most of which I have grown for several years. The only mode of treatment I find they require is, to give a sandy peat and loamy soil, well broken, and to plant them in some place where they may be protected from strong winds, some of the kinds being very brittle. I am not aware where the whole of the kinds may be procured, but if not to be found in any single nursery, a nurseryman will generally apply to others to furnish him with what he is deficient in. I have procured mine by noticing the sorts grown in the gardens and nurseries which I occasionally visit, and ordering them at the time; and I always, when the season was suitable, had them taken up in my presence, by which I secured the sorts correctly. I have planted my stock, amounting to upwards of 500 plants, upon a sloping bank, and in one general mass, and it has a very pretty appearance at all seasons, but particularly so when in blossom. Some of the plants form bushes a yard in diameter. I am very desirous to see this pretty tribe of plants more generally cultivated, particularly in masses. I am sure it will give the greatest satisfaction to those who adopt it.

HARDY HEATHS.

<i>Erica arborea</i>	<i>Erica tetralix alba</i>
— — — <i>stylosa</i>	— — — <i>carnea</i>
— — — <i>australis</i>	— — — <i>umbellata</i>
— — — <i>superba</i>	— — — <i>vagans</i>
— — — <i>carnea</i>	— — — <i>alba</i>
— — — <i>præcox</i>	— — — <i>pallida</i>
— — — <i>ciliaris</i>	— — — <i>fenella</i>
— — — <i>cinerea</i>	— — — <i>viridipurpurea</i>
— — — <i>alba</i>	— — — <i>vulgaris (calluna)</i>
— — — <i>atrosanguinea</i>	— — — <i>alba</i>
— — — <i>carnea</i>	— — — <i>aurea</i>
— — — <i>monstrosa</i>	— — — <i>coccinea</i>
— — — <i>rubra</i>	— — — <i>decumbens</i>
— — — <i>mediterranea</i>	— — — <i>flore pleno</i>
— — — <i>minima</i>	— — — <i>spicata</i>
— — — <i>multiflora</i>	— — — <i>spuria</i>
— — — <i>ramulosa</i>	— — — <i>tomentosa</i>
— — — <i>stricta</i>	— — — <i>variegata</i>
— — — <i>tetralix</i>	

C. LERICUS.

ON *DAFNE CNEORUM*.—This pretty little hardy shrub, growing from six to eight inches high, is an excellent one for forcing during winter. It blooms very profusely, and its lovely rosy-pink flowers are very beautiful. Plants can be had very cheap. Several of the *Andromedas*, white and pink species, are also very suitable and beautiful. The *Gaultheria procumbens*, a little dwarf shrub, with its lovely pendent flowers, is also very interesting and pretty. To these the *Kalmias* ought to be added.

ON GARDENING IN SWEDEN.—The taste for gardening is much on the increase in Sweden; and the gardens are improving, notwithstanding the drawbacks occasioned as well by the climate as by the want of communication and difficulty in procuring novelties, which they can scarcely obtain but from Booth's, of Flottbeck. In the neighbourhood of Gottenburgh several neatly kept and pretty gardens, especially at the pretty village of Oergrüder, are among the many indications of the increasing prosperity of the town; and the space covered by the soil taken from a new canal making in the town has been laid out in public promenades with clumps of flowering shrubs. On our way here, and in the excursions we have made, many of the country seats we have passed appeared to have gardens of some extent, often with green and hot-houses, and generally with gravel walks made in the woods. Many of these seats or chateaux, in which the upper classes in Sweden generally spend their summer, are beautifully situated, and the variety of forms assumed by the low-wooded granite rocks, and the great abundance of lakes of all sizes and shapes, give great scope for laying out picturesque grounds; although to a traveller, after seeing hundreds of miles of the granite rocks and Pine woods, the country has rather too much of sameness. At Upsala we saw the house and garden where Linnæus lived and grew the plants marked in his herbarium as H. U., or Hortus Upsalensis, but it no longer belongs to the family; the old greenhouses, stone buildings with large windows, are converted to other purposes, and the only relics of Linnæus there consist of some trees, especially a black Poplar known to have been planted by his own hands. The present Botanic Garden, surrounding the Museum of Natural History at the back of the governor's palace, just out of the town, was laid out shortly after the younger Linnæus's death. The outer garden is pretty well kept, and is laid out as an ornamental promenade, with thick shaded walks, flowering shrubs, &c. The great vigour of vegetation shows the richness of the soil, although neither that nor the climate are said to be near so good as on the other side of Upsala. The tall Larkspur (*Delphinium elatum*, I believe, or *exaltatum*) looks more like a bush than a herbaceous plant, and forms tufts 7 or 8 feet high, with at least 20 to 30 of its handsome spikes in flower at once. *Gaillardias* were much finer than with us. *Tagetes sinuata* (Bartl.), a plant not cultivated I believe in England, is a pretty species, and amongst the shrubs there is a good deal of the *Caragana* forming very thick tufts or hedges now out of flower, but from the very great quantity of seed pods must have been very full, and they say it is then very handsome. It is a much neater growing shrub than our *Colutea*. The botanical part of the garden, properly so called, disappointed me at first. There is a considerable extent of glass, old greenhouses, pits of various sizes, and more modern and light span-roof houses, but looking untidy and out of repair, and the garden at first appeared to have more weeds than anything else, but upon going through it the collection of plants appeared to be really considerable. Amongst these in flower, *Goodenia grandiflora*, which I do not recollect in our collections, was very handsome.—*Gardeners' Chronicle*.

Floral Operations for November.

All greenhouse plants should have a free supply of air admitted, except when it is frosty. The plants should not be watered in the evening, but in the early part of the day, so that the damps may be dried up before the house is closed, as they are, during the night, prejudicial to the plants. The soil in the pots should frequently be stirred at the surface, to prevent its forming a mossy or very compact state. The plants must not be watered overhead. *Luculia gra-*

tissima is the finest ornament for the greenhouse and conservatory, now and through the winter.

The plants of the Cactus that have been kept in the open air during the summer may be brought to bloom successively by taking such as are desired to bloom immediately into the heat of a forcing pine-house. Other plants, to bloom afterwards, should be kept in a greenhouse protected from the frost. Any shoots still growing, break off the end to check it.

Plants of the *Calceolaria* that have been grown in the open borders during the summer months, and now taken up and potted, should be kept in a cool frame, or cool part of the greenhouse, being careful not to give too much water: just sufficient to keep the soil moist will only be necessary. Offsets will be found rooted; take them off and pot them.

Dutch bulbs, &c., may be successfully planted this month. See articles on best mode of the culture of each, in former numbers of the *CABINET*. Many persons who take a delight in growing some showy Hyacinths or other bulbous plants for adorning a room or window, &c., in winter or early in spring, have been frequently disappointed by the abortiveness of some and weakness of others. This principally arises from the inability of the plant to develop itself with a rapidity equal to the quantity of moisture it imbibes, on account of its upper surface being acted upon too immediately by the atmosphere, &c.; hence arises the necessity of covering the bulb. That such is a fact is evidenced by the admirable and certain success of nearly every bulb, especially Hyacinths, that is covered with about six inches of old spent bark. This or some similar light material should always be used. Even bulbs intended to bloom in glasses we prefer starting in the old bark, and then transferring them to the glasses when the shoots are about two inches long. Where such covering is not adopted, it is of advantage to have the pots or glasses kept in a dark place till the shoots are two or three inches long.

Plants of some of the *Chrysanthemums* that are grown in pots and taken into the greenhouse will be found to have pushed a number of suckers. If the offsets are wanted for the increase of the kind, it is advisable to pinch off the tops, so as to prevent their exhausting the plant, to the weakening of the flower. If the flower-buds are thinned out freely, it conduces to the increased size of those left. If the offsets are not wanted, it is best to pull up the suckers entire. Attention will be required to watering, as the roots absorb much, if given; give manure water occasionally. If the plant is allowed to wither, it checks the flowers, whether in bud or expanded. So much do we admire this handsome genus of flowers, that we are fully persuaded their beautiful blossoms, exhibited in form and colour, will most amply repay for any labour that may be bestowed on the plants.

Dahlia seeds are best retained in the heads as grown, spread singly where they will not be liable to mould, and kept in a dry but not too hot a situation; being thus kept in the chaff, the small seeds will not shrivel, but be kept plump. The roots must be dried well before being put away, or will be liable to rot.

Fuchsias and greenhouse plants, intended to be inured to the open air, will require to have protection at the roots, and probably, for the first winter, over the tops too, by furze-branches, canvas, wicker baskets, &c.

Shrubs, deciduous or evergreen, may now be successfully planted. If in exposed situations, they should be secured to stakes.

Herbaceous border plants may still be divided and replanted.

Straw or reed hurdles ought now to be prepared for covering frames, &c., in the depth of winter.

Achimenes, withhold water from, till February.

Shrubs, &c. Winter bloom.—Such as are to bloom early should be prepared gradually, potted (if required), and be introduced into the house, pit, &c.: such as *Roses*, *Honeysuckles*, *Jasmines*, *Azaleas*, *Persian Lilacs*, *Carnations*, *Pinks*, *Rhododendrons*, *Ribes*, *Sweet Violets*, *Hyacinths*, *Iily of the Valley*, *Mignonette*, *Primroses*, *Stocks*, *Persian Iris*, *Crocus*, *Cyclamens*, *Rhodoras*, *Correas*, *Deutzias*, *Mezeriums*, *Gardenias*, *Heliotropes*, *Scarlet Pelargoniums*, *Cactuses*, *Eranthemum* (the blue), *Justitia*, *Gesnerias*, *Narcissus*, *Tulips*, &c.



GARDENIA FLORIDA var. *FORTUNIANA*.

Floricultural Cabinet

THE
FLORICULTURAL CABINET,

DECEMBER 1st, 1846.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

GARDENIA FLORIDA; VAR. FORTUNIANA.

THERE has recently been introduced into this country several splendid additions to this beautiful and much esteemed genus, and the one now figured is a very valuable acquisition. It was discovered by Mr. Fortune, the London Horticultural Society's collector, in the north of China. The particulars relative to it, as inserted in the Journal of the Horticultural Society, are,—

“It is a greenhouse shrub. The common single and double varieties of this plant are known to every one. That which is now noticed differs merely in the extraordinary size of the flowers, which are nearly four inches in diameter, and in having fine broad leaves, sometimes as much as six inches long. It is one of the very finest shrubs in cultivation, and ranks on a level with the double white Camellia, which it equals in the beauty of the flowers and leaves, and infinitely excels in its delicious odour.”

ARTICLE II.

ON THE CULTURE OF THE CHRYSANTHEMUM INDICUM.

BY MR. WILLIAM CHITTY, STAMFORD HILL, NEAR LONDON.

THE cultivation of the *Chrysanthemum* is a subject upon which so much has been written, and well written too, that it may appear perfectly superfluous to add thereto, but as there are items of management in every cultivator's mode of managing this plant different to every other, and the kind of treatment I have adopted with them the last few years enabling me to produce nice neat and bushy plants, flowering in tolerable perfection, I am induced to send you the particulars for insertion in the *FLORICULTURAL CABINET*.

The latter end of March, or beginning of April, I select the strongest suckers from the old plants, and plant one in a 48-sized pot, using the richest soil, consisting of equal parts of loam, bog, well-rotted stable manure, and leaf mould. When I have put off as many as I have occasion for, I set them in a cold frame, and keep them close for a fortnight or three weeks, by which time most of them are well established in the pots. They are inured by degrees to the open air, they are then taken out and placed in an open situation until the pots are well filled with roots, which will be by the middle, or from that to the end of May; they are then shifted into the pots in which I intend them to flower, some into 24's, and some into 16's, according to the strength of the kinds, using the same kind of compost for them. I then plunge the pots up to their rims in a south border, about 2 feet 6 inches apart each way, which allows plenty of room for the plants to grow without drawing each other, and for performing the operations of tying, watering, &c., which they from time to time require. In this situation the pots soon become filled with roots, and protruding through the bottom of the pots the plants luxuriate with very great vigour. In order to keep the plants snug and bushy, continual attention to stopping is necessary, commencing with the plants when they are four or five inches high, and subsequently as often as they have made four or five joints till the middle of July, when I leave off stopping and let them run up for bloom. As soon as the flower buds are well formed, which with me is mostly about the last week, or last week but one, in September, I tie up the plants to neat sticks, and arrange them in the way I wish them to

flower. I have placed sticks around the sides of the pot, and so tied the shoots as to have flowers and foliage quite down to the rim of the pot; but though the plants so arranged have a very neat and pretty appearance, they do not flower either so abundantly or fine as when the stems are trained upright. By the middle of October most of the sorts are showing colour, when they are taken up, giving them a twist round to separate the roots that have protruded, and placed in the greenhouse. The late blooming sorts are left out another week or two, or until there is a danger of their being injured by frost. Although when taken out of the ground the largest portion of their roots are without the pot, they seem not to suffer the least check, but when placed in the greenhouse go on expanding their flowers as though they had never been disturbed. By the above mode of treatment the dwarf sorts grow from a foot and a half to two feet, and the taller sorts average about three feet six inches in height, well furnished with branches, and mostly clothed with foliage nearly to the rim of the pot, and exhibiting throughout November and the first half of December an assemblage of beauty not to be surpassed by any tribe of plants whatever. So much do I admire this tribe of plants, that I have often said if I must confine my attention solely to one class of plants, it should be the Chrysanthemum. And certainly in the varied forms, from the modest appearance of the tassel-flowered varieties to the bold fronts presented by Princess Maria, and similar flowers, and in the exquisite colouring, from the purest white to the richest purple and crimson, there is sufficient to command the admiration of every lover of flowers. Would it not contribute to the extended culture of these plants if greater encouragement was held out by the Horticultural Societies for their exhibition. They are most commonly exhibited as cut flowers, but if they were to be shown as Pelargoniums and Calceolarias; for instance, in pots 12 to the cast, or 24 to the cast, or what not, a sufficient number of competitors would be forthcoming to render a floral exhibition in November or December as interesting and attractive as at Midsummer. I hope the above remarks will be useful; if the process be practised I am confident the results will prove satisfactory.

ARTICLE III.

ON DISPOSING PLANTS IN MASSES.

BY AMICUS.

THE system of disposing plants in masses, so frequently and ably advocated in this Magazine, is becoming very general, and certainly produces a much better effect than the tedious monotony of an indiscriminate mixture. In the practice, however, of this superior method, it should be remembered that the groups and masses ought to be considered as parts of the whole, and as such, should harmonize and unite with each other, with regard to form and colour. Without attention to this point, the several disunited and independent parts will no more form a gardenesque landscape, than the colours arranged on the painter's palette will of themselves form a picture. I have known more than one small garden spoiled by a disregard of proportion, the shrubs and flowers being disposed in groups of far too large a size. In such a situation, a single plant, or a group of two or three, must be considered to bear the same proportion to the whole, as much larger masses or groups bear in the case of a park. Although I approve, as I have said above, of the principle of placing different species in groups and masses, I think that there are cases in which, like all other principles, it may be carried too far. In a small flower garden, which I very much admire, I have seen a group, composed of myrtles and China roses, planted alternately in quincunx order, the larger plants being in the centre; and in my opinion, a better effect was produced than if the two species had been in separate masses; the rich green colour of the myrtles' leaves, forming a ground to the beautiful white of the mingled colour, and the associations connected with both, made an impression upon me which I shall not easily forget. In the same garden there is a group consisting of an acacia, the broader and more shadowy plumes of the sumach, and the pendulous clusters of flowers of the laburnum, composing a little picture of the most highly finished character.

Gardeners might find much instruction by an examination of cottage gardens, in many of which I have seen a degree of good taste that is not always found where there is more reason to expect it. In such gardens, it often happens that very striking effects are produced by a judicious disposition of plants of the most common description,

and I think it would be a very useful study to endeavour to imitate them with plants of more rare and choice species. I was once much struck by a particular effect, (not, however, of sufficient general interest for a place in your Magazine,) produced by a plant of the common hop; and it was not until after many trials that I could find a substitute for it among more choice plants; at last, however, I succeeded to my own satisfaction by means of one of the genus *Clematis*; the species I do not with certainty know.

In small gardens, nothing can be more displeasing than a want of neatness and high finish; it reminds me of a flower-painter of the last century who used the most dingy and sombre colours that he could find, saying that he imitated Raphael, and painted for posterity. In the case of a small garden, it should be remembered that, whatever may be the beauty of the design, constant attention, and the frequent removal of plants are indispensable; three or four years of neglect would leave nothing, either to posterity or the designer himself, but a tangled and matted thicket of such plants as might come off conquerors in the struggle for life, incident to want of sufficient space.

ARTICLE IV.

REMARKS ON THE HOLLYHOCK.

BY CLERICUS.

THE Hollyhock is an old acquaintance in this country, and one of the noblest decorations of the flower garden, whether exhibiting its magnificence in the garden connected with the Royal Palace or seen in gradation downwards to that of the humble cottage. It has long been much admired by myself, and having travelled much through Great Britain, I have been increasingly delighted in my journeyings through the country villages and the environs of our towns and cities to notice the general admission of it to the gardens, and further to observe the rapid improvement now made in the increase of fine varieties of good form and decided colours of distinction. Such are the merits of the entire class of kinds, that I think they deserve to be much more recommended and cultivated. In the improvement in character of the flowers, I observe a class is progressing, having the outer, or guard petals, of a fleshy substance, that is more firm than the flimsy poppy like texture of others.

These petals, too, are of even surface, wholly free from undulation or frilling, and the edges are entire, not notched. The centre florets are regularly congregated, and in form a half globe, this also of a proportionate size to the diameter of the flower. Varieties possessing these properties are now dispersing through the country, and may be had of those nurserymen and florists who have taken a particular interest in selecting kinds, and planting them distant from those of an opposite character, and thus obtain seed, the produce of which furnishes varieties of like properties, and giving increase of colours.

It is desirable that more extended attention be paid to the selection of kinds, and raising new varieties in the manner above named, and this is just as readily done as in the case of the Dahlia, Asters, &c., and the result not less satisfactory.

A fine variety being obtained, it is readily increased and perpetuated by division. The first season it blooms, it ought not to be allowed to flower later than the end of August, but be cut down to about six inches from the ground in order to induce the production of side shoots, being headed down early, the lateral shoots become strong before the winter sets in, and thus survive its severity, whereas if allowed to bloom the entire period the plant would extend to, there would, in most cases of the best double kinds, only be the bare stem, or a late production of very small side shoots, which very rarely survive winter.

Seed should be sown either broad cast, or in drills; in April, when the plants are fit to transplant, they should be placed in rich soil, a foot or more apart, so that they are not choked hereafter by being overgrown.

The following season they will bloom, and then the selection may be made, heading down superb sorts, &c.

The time to increase those which were duly headed down is in the first or second week in March, unless the weather be very severe. In dividing the plant, the main stem and trunk of roots, is generally readily divided, taking care to have a shoot to each part so separated. When planted each should then be watered in order to settle the soil round the fibrous roots. By some this attention may appear to be too extended with the culture of the Hollyhock; the bare magnificence of the plant merits it, and much more so, to obtain, perpetuate, and cultivate successfully those varieties, having the superior properties of

form and distinctiveness of colour; every reasonable attention will be amply rewarded.

If seedlings of the first season are desired, such, though not bloomed and proved, may be obtained cheap.

The following eighteen varieties are offered either in plants or seeds, viz., orange, orange with dark crimson centre, black, rose, white, pink, red, light crimson, {dark crimson, flesh colour, purple, sulphur, buff, variegated red and white, lilac, chocolate, slate colour, and brown.

I do trust my notice of this fine tribe will induce the readers hereof, wherever practicable, to a cultivation of it in a more proportionate manner according with its merits. As a back row plant, extending along a flower border, or around a flower garden, it stands unrivalled.

ARTICLE V.

REMARKS ON THE GERMINATION OF SEEDS.

ALTHOUGH this is the general method of raising plants, yet but little is generally known of the operations of nature in that process; I therefore forward the following remarks thereon, which will be of utility in raising exotic plants from seeds.

A perfectly formed seed may be considered a young plant, the vital energies of which are in a dormant or latent state, but ready to be excited to action when the proper stimuli are applied; and containing a quantity of matter in a state to be easily formed into proper nutriment, and applied to its support before it is able to provide for itself.

Seeds possess a great quantity of carbon. This substance, by its anti-putrescent qualities and hardness, prevents the seeds from undergoing putrefaction, and thus preserves them for a great length of time. All that is necessary for preserving seeds, is to prevent germination and putrefaction; for this purpose they must be carefully excluded from the action of heat and moisture, and other chemical agents. Seeds retain their vitality for a very long period—for hundreds, or even thousands of years. Seeds which have been proved to have been not less than one thousand eight hundred years old have germinated and produced thriving plants; and plants have appeared, on turning up the ground in some situations, the seeds of which are conjectured to have been buried a much longer period.

Four conditions are necessary for the process of germination: the presence of water, of heat, and of air, and the exclusion of light.

Water softens the integuments, and renders them capable of being burst by the swollen embryo; dissolves the nutritive matter contained in the seed, thus reducing it to a fit state to be absorbed for the nutrition of the embryo; conveys in solution nutritive particles from other sources; and furnishes two important ingredients in the composition of vegetables.

The air, by means of the oxygen which it contains, effects a chemical change on the farina of the seed. The oxygen combines with the carbon, and forms carbonic acid, which escapes; and thus the proportion of oxygen and hydrogen being increased by the expulsion of the carbon, the farina is converted into a semi-fluid substance, of a saccharine or mucilaginous nature, consisting of starch, gum, and sugar, well adapted for the nutrition of the plant in its infant state.

Heat always promotes chemical combination and decomposition, and thus assists the action of the water in dissolving the hard parts of the seed, and that of the air in its part of the process. Most probably heat acts as a general stimulus to the absorbents in the seed. Seeds cannot be made to germinate in very cold weather, except by the application of artificial heat. Too great heat also checks germination, because it destroys the vitality of the seed.

Light is unfavourable to germination, because it disposes to an accumulation of carbon in the seed, and a consequent hardening of the parts; or rather prevents the expulsion of carbon, and consequent softening of the parts, which, if necessary, they should be taken up and applied to the use of the plant. The seeds of red poppy and charlock remain in the ground and retain their vitality for a long period; hence they are frequent on new banks or newly upturned ground.

From the operation of these causes, it will be seen why seeds planted too deeply in the earth do not germinate. The air has not access to them, and therefore, from the want of that important stimulus, they remain torpid. Hence it is that earth newly dug up frequently becomes covered with weeds, the seeds of which soon germinate when exposed to the air.

Placing seeds at a certain depth in the earth excludes them from the access of light, which is so injurious to germination; insures a

supply of moisture, which would not remain with them were they placed at the surface; protects them from the wind, and from the attacks of animals; and enables the roots to take a firm footing in the soil.

When the germination has commenced, the seeds become soft, and swell, oxygen is absorbed, and carbonic acid disengaged; the particles of the covering of the seed lose their cohesion, and it bursts, to make way for the elongation of the embryo; the radicle elongates and descends, often attaining a considerable length before the gemmule has made any progress, and soon exercises its function of absorbing food; the cotyledons expand and become seminal leaves, which afford nourishment to the young plant in the first stage of its existence, by elaborating the sap, and wither when the proper leaves of the plant have unfolded, or remain under the surface, are gradually absorbed, and disappear; the gemmule, or first bud, gradually unfolds and enlarges; the leaves and stem appear, and we now have a young plant, a living being, able to provide its own sustenance, and to apply it to its increase, and to the formation of seeds to perpetuate the species.

In the operation of malting, the object is to convert the farina of the seed into sugar. For this purpose the seed is made to germinate, and this process is stopped (by heating) at that point at which it has been found there is the greatest quantity of saccharine matter in the seed. Were germination allowed to proceed further, the saccharine matter would be taken up for the nutrition of the young plants, and its nature completely altered.

ARTICLE VI.

ON CARNATIONS DROOPING AND DYING WHEN NEAR BLOOM.

BY A MIDLAND COUNTIES FLORIST.

NOTICING in a former Number that an amateur Carnation grower had had the fatal disaster of some of his best kinds drooping and dying when near the period of blooming, I send the following particulars relative to the subject, and beg to inform him that it is caused by growing them too strong in the winter situation. The layers should be planted in light, but poor soil; for if they are planted in a rich compost in winter, they make a large quantity of roots, and become

very strong, throwing up stems for bloom ; which causes them to grow luxuriant, the stems become very pithy, and the sap cannot properly circulate. They then turn to a whitish green, and assume an unhealthy appearance, and when near blooming they droop, as if in want of water. I am persuaded, that if "Iris" will take and cut through the stems, he will see that they are full of pith, and quite dry, being destitute of sap. If "Iris" wishes to grow for competition, I should recommend him to grow one part of his plants in a very rich compost in order to get them of a very high colour. In doing this, he must always expect to find some that run to one colour ; but if he grows one or two of each kind on a bed that is of a poorish, but light soil, and if they should chance to run by being grown too rich, and in that case if any die by being so treated, he will see that he has saved the other which was grown on poor soil. Such is the way extensive cultivators of the Carnation do, or they would soon lose the greater part of their best sorts. It is to be regretted that those kinds that are of a high colour, are most subject to run—such as Cartwright's Rainbow, pink bizarre ; Walmsley's William the Fourth, scarlet bizarre ; Taylor's Festival, scarlet flake ; Bellerophon, purple flake ; Tyso's Princess Victoria, rose flake ; and Martin's Prince George of Cumberland, red picotee. Such as the above, and all that are of a high colour, similar to those named, should not be grown in too rich a soil.

ARTICLE VII.

OBSERVATIONS ON DRYING AND PRESERVING SPECIMENS OF FLOWERS.

BY FLORA.

ONE of the most interesting and pleasing attentions given to flowers, is that of drying and preserving specimens, and to a person anxious to become perfectly acquainted with botany they are found of much more avail than the most elaborate descriptions he can meet with. It is unnecessary, however, to enumerate all the advantages resulting from the possession of a collection of preserved plants, as they can be fully appreciated only by a person having made some advancement in the study of Botany, and who by them is enabled instantly to compare plants with each other, or with the descriptions of other botanists, and to them he can at all times refer, either for refreshing

his memory, or for instituting a more minute examination than he had previously made. A collection of dried plants was formerly called *Hortus siccus*, but now universally *Herbarium*. Various methods are in use for drying plants, but the following, being simple, efficacious, attended with little difficulty, and one that I have very successfully pursued for twelve years, induces me to offer it to the notice of your numerous readers.

The articles necessary for the accomplishment of the object in view are, a quantity of smooth, soft paper, of large size, eight boards of the same size, about an inch thick, of hard wood; four iron weights or pieces of lead, two of them about forty pounds weight, the others half that number. Or in place of these weights a number of clean bricks may be used, or, in short, any heavy bodies of convenient form. Along with these articles, a botanical box is necessary. This box is made of tin, and varies in size, from nine inches to two feet in length, according to the taste and avidity of the collector.

In gathering plants for this purpose, such as are smaller than the size of the paper are to be taken up roots and all. In many cases, portions only of plants can be preserved, on account of their size, and then the most essential parts are to be selected, including always the flowers; avoid all imperfect or monstrous shoots, but if the leaves are generally dissimilar on various parts of the species, as is frequently the case in herbaceous plants, then examples of both ought to be preserved. Plants to be preserved are to be gathered in dry weather, and immediately deposited in the tin box, which prevents their becoming shrivelled by evaporation. If gathered in wet weather, they must be laid out for some time on a table or elsewhere to undergo a partial drying. When roots have been taken up along with the stems, they ought to be first washed, and then exposed for some time to the air.

Suppose now that a dozen specimens are procured, over one of the boards lay two or three sheets of the paper, on the uppermost of which spread out the plant to be dried, unfolding its various parts, not however so as to injure its natural appearance. A few of the flowers and leaves ought to be laid out with particular care, and in many cases, those of *Ericæ*, &c., the specimen ought to be plunged for a minute into boiling water, which I have always found to prevent their leaves falling off. Over this specimen lay half a dozen

sheets of paper, on the uppermost of which lay another plant as before, and so on successively, until the whole are disposed of. A few sheets are then laid upon the last, and a board placed over all.

We may divide plants, viewed with reference to drying, into two classes, the one comprehending those which being thin, soft, and flexible, require little pressure to reduce them to a level, the other including such as being stiff and thick require much pressure. Supposing the above plants to have been of the first class, we lay upon the upper board one of the smaller weights. A series of more stubborn specimens being, in like manner, placed between other two boards, we lay one of the larger weights upon them.

Should more specimens be collected next day, they are disposed of in the same manner; and thus successively. At the end of two days generally, the plants first laid in are to be taken out, together with the paper about them. They are to be laid in fresh paper, which has been made very dry and hot before a fire, three or four sheets being placed between every two plants, and the whole put between two boards, with a weight over them. The second series is similarly treated next day, and so on. The paper from which the plants have been removed is to be dried for future use.

There will thus be four sets of plants: two in the first stage of drying, and two in the second stage. The plants of the second stage sets should be taken out about two days after they have been deposited, and after dry and hot paper has been put about them, returned to their places. The paper may thus be shifted until the plants be perfectly dry, when they are finally removed. Each plant is then placed in a sheet of dry paper, and along with it is deposited a slip of paper, on which are written the name of the plant, the place in which it was gathered, the time of gathering, the soil, and such other circumstances as may tend to elucidate the history of the species. Thus prepared, the plants are packed up in bundles, which gradually enlarge their dimensions, or increase in number till the end of the season.

It frequently happens, notwithstanding all possible precautions, that some plants, such as *Orchidaceæ*, fall to pieces in drying, in which case the fragments must be taken care of, so that they may be attached when the specimens are finally arranged. For this purpose procure a quantity of good stout writing or printing paper of large size,

folded into folio, which is to be stitched in coloured covers, making fasciculi of five or six sheets each. A quantity of fine large post or other writing paper, in half sheets, folio size, cut round the edges, is also to be at hand. Let a number of narrow slips of different lengths be cut from a piece of the same paper, and let some prepared isinglass or dissolved gum be in readiness, together with a camel-hair pencil. Take a dried plant, lay it upon a leaf of the fine cut paper, then fasten it down by means of a few of the slips, to which isinglass or gum has been applied, laid across the stem and some of the branches. Two or three slips are generally sufficient for a specimen. In this manner all the dried plants destined to form part of the herbarium are treated. Write the name of each species on the top of the leaf, and transcribe the notice respecting the place in which it was gathered, &c., at the bottom. Then arrange the plant according to system, and lay one between every two pages of the fasciculi. The fasciculi are formed into bundles, by being laid alternately up and down upon each other, as they do not lie conveniently when the heads of the plants are all at the top of the bundle, because the stalks and roots are thicker than the flowers. These bundles, consisting each of ten fasciculi, may be covered by pieces of paste-board tied by strings. The collection is kept on the shelves of a cabinet made of pine wood, and to prevent depredations by insects, of which the little *Anobium castaneum* is certainly principal, it is only necessary to suspend two or three little bags, filled with camphor, in the interior. This will be found quite effectual, and is much more simple than the various other methods employed.

ARTICLE VIII.

ON INCREASING ROSES BY CUTTINGS OF THE ROOTS,

BY FLORA.

HAVING been advised to try the experiment of raising Rose trees by taking cuttings off the roots, I did so, and found it to succeed admirably. The mode I adopted was as follows:—The first week in March I took some of the long, thick, and fleshy looking roots of my English and French Roses, and cut them into pieces about three inches long. I then smoothened the surface of a border in front of a peach wall, upon this I laid the roots flat, at about six

inches apart; when the roots were placed, I covered them with fine sifted soil half an inch deep, gently beating it to the cuttings; I then laid four inches more of loamy soil well enriched with rotten cow-dung, a year old, giving the whole a good watering, and when dry, smoothened the surface over with the back of the spade. By the middle of May every cutting had sent one, [and some two strong shoots, and on examination, I found the soil I had covered the cuttings with, to be filled with a mass of fine roots; at this time, July 5th, the shoots are more than a foot high.

I have anxiously watered the bed, being in a sunny situation I found it got dry, more especially so, having the bed raised upon the old surface of the border, it would have been better to have sunk it so as finally to have it even with the surrounding soil.

[We have practised the above mode of raising Moss Roses, and similar border kinds, which have been found difficult to increase from cuttings of the wood or young shoots, and have never known it fail. The following February is the best time to take up the young plants, and remove them to beds for flowering, which they will do very freely if taken up with as many fibrous roots as possible. Well rotted cow-dung is the best manure for the Rose, being cooler than horse-dung, &c., a portion of it laid over the roots of the plants early in March, and either just pointed in or covered over with a little fresh loam, improves the vigour of the plants and increases their bloom.—CONDUCTOR.]

ARTICLE IX.

OBSERVATIONS ON WEIGELA ROSEA.

IN page 47 of our Magazine we made mention of this new syringe-like plant, which is stated to be a valuable acquisition, and not only as likely to flourish in the open air in this country, but very capable for forcing into bloom at an early season of the year, when every flower is hailed with so much gratification. Since our notice, the following particulars have been given by its collector (Mr. Fortune), and published by the Horticultural Society in their Journal, which we have much pleasure in transcribing.

Mr. Fortune states, "When I first discovered this beautiful plant it was growing in a mandarin's garden on the island of Chusan, and

literally loaded with its fine rose-coloured flowers, which hung in graceful bunches from the axils of the leaves and the ends of the branches. The garden, which was an excellent specimen of the peculiar style so much admired by the Chinese in the north, was often visited by the officers of the regiments who were quartered at Tinghae, and was generally called the Grotto, on account of the pretty rock-work with which it was ornamented. Every one saw and admired the beautiful Weigela, which was also a great favourite with the old gentleman to whom the place belonged. I immediately marked it as one of the finest plants of Northern China, and determined to send plants of it home in every ship until I should hear of its safe arrival.

“All the gardens of the mandarins in the north of China are small, and as there is only room for a few plants, these are always of the most select and handsome description. Amongst my collections are several other plants which are common in these gardens, all of which are of great beauty and interest. Azaleas, Roses, Moutans, *Glycine sinensis alba*, *Viburnums* (more handsome than our common Gueuldres rose), and various other free-flowering shrubs, make these gardens extremely gay, particularly during the spring and early summer months.

“*Weigela rosea* is unknown in the southern provinces of China, and therefore I have every reason to suppose that it will prove hardy, or nearly so, in England; but, if not, it will make a first-rate greenhouse plant, and will take its place by the side of the beautiful Azaleas and Camellias of its own country. I never met with it in a wild state on the Chinese hills, and it is therefore just possible that it may have been originally introduced to China from Japan: this, however, is only conjecture. In the north of China, where the plant is found, the thermometer sometimes sinks within a few degrees of zero, and the country is frequently covered with snow, and yet in these circumstances it sustains no injury.

“As this shrub has been liberally distributed amongst the Fellows of the Horticultural Society, some remarks upon its habits and cultivation will probably be acceptable. It forms a neat middle-sized bush, not unlike a *Philadelphus* in habit, deciduous in winter, and flowers in the months of April and May. One great recommendation

to it is, that it is a plant of the easiest cultivation. Cuttings strike readily any time during the spring or summer months, with ordinary attention; and the plant itself grows well in any common garden soil. It should be grown in this country as it is in China, not tied up in that formal unnatural way in which we frequently see plants which are brought to our exhibitions, but a main stem or two chosen for leaders, which in their turn throw out branches from their sides, and then, when the plant comes into bloom, the branches, which are loaded with beautiful flowers, hang down in graceful and natural festoons. It was a plant of this kind which I have already noticed as growing in the grotto-garden on the island of Chusan; and I doubt not that plants of equal beauty will soon be produced in our gardens in England.

"The possessors of *Weigela rosea* had better give it some slight protection during the next winter, by keeping it either in a greenhouse or frame until duplicates are made, when these can be planted out in the open air. The main object should be to enable the plant to ripen its wood well, for when this is done it will not only be more hardy, but it will also flower better in the following season."

"Its capability of standing out our English winters will be shown in the garden of the Horticultural Society next winter; but whether it prove itself a hardy or a greenhouse plant, it is without doubt one of the finest shrubs which have been introduced to this country of late years."

REVIEW.

The Bee Keeper's Manual, or Practical Hints on the Management and Complete Preservation of the Honey Bee. By Henry Taylor. Third edition. London, R. Groombridge and Sons, Paternoster-row.

THIS is far the best practical publication on the subject that we have read. It is illustrated by numerous engravings. All who take an interest in the management of Bees, ought to possess the work. The book is in 12mo., 144 pages, and got up in a very neat manner.

PART II.

 MISCELLANY
 OF
 NOTES AND CORRESPONDENCE.

New or Rare Plants.

BOIOPHYLLUM UMBELLATUM. UMBEL-FLOWERED. (Bot. Mag. 4267.) Orchideæ. A native of northern India, Nepal, and Khasiya Hills. It has recently bloomed in the collection at the Royal Gardens, Kew. The flowers are produced in an umbellate head of six to eight in each. Each blossom is about an inch across. Sepals and petals pale yellow spotted with deep red. Lip white, with purple spots.

CLEMATIS CRISPA. THE CRISP-FLOWERED. (Bot. Reg. 60.) Ranunculacæ. Polyandria Polygynia. Much confusion has taken place relative to the proper names of several species of Clematis. Dr. Lindley states the one now figured as *C. crispa* is correct. It is a native of North America, hardy, climbing. It blooms from May to November. The flowers are a very pale purple colour, leathery, and very fragrant. Each blossom is about an inch and a half across, the petals reflexing at their ends. Messrs. Maule and Sons, of Bristol, obtained seeds of it from North America.

CROTALARIA VERRUCOSA. THE WARTED. (Pax. Mag. Bot.) Leguminosæ. Diadelphia Decandria. A native of the East Indies, introduced many years ago, but very scarce in this country. It flourishes in a warm greenhouse, and is beautiful when in bloom. It is an annual, blooming freely in large spikes. Each blossom is about three-quarters of an inch across. Corolla, vexillum greenish-white, streaked with pale blue; wings yellowish, white at the base; the rest blue, with the keel whitish, but yellowish at the point. It is well deserving a place either in the greenhouse or moderate stove.

ÆSCHYNANTHUS MINIATUS. THE VERMILION. Gesneracæ. Didynamia Angiospermia. (Bot. Reg.) Introduced from Java by Messrs. Veitch. It is easy of culture, doing best in a warm, damp house, and grown in a basket or on a block of wood, as many of the orchideæ are done. It blooms abundantly; the flowers are of a brilliant vermilion colour, and when the branches are allowed to trail over the side of a basket, &c., it forms a carpet of scarlet flowers. Each blossom is about an inch long.

ÆGIPHILA GRANDIFLORA. GREAT-FLOWERED. Verbenacæ. Tetrandria Monogynia. (Pax. Mag. Bot.) Introduced into this country from Havannah. It is a robust evergreen stove shrub. The flowers are tube-formed, each about an inch long, and produced in large corymbose heads, of a pale yellow colour, and blooming through the winter renders it more valuable. It is in the collection of Mr. Low.

GARDENIA DEVONIA. THE DUKE OF DEVONSHIRE. Cinchonacæ. Pentandria Monogynia. (Bot. Reg. 63.) Mr. Whitfield imported this new species from Sierra Leone. It is a vigorous hothouse shrubby plant. Each flower is single, having a slender tube, about seven or eight inches long, very similar to the long white-flowered Marvel of Peru. The mouth divides into a five-parted flower, somewhat bell-shaped, with the lobes recurving. The terminal portion of the flower is about four inches across, somewhat like a small white Lily. They are of a pure white at first, but change to a light straw colour. It has recently bloomed in the collection of Mr. Glendinning, at Chiswick Nursery.

ORPHIUM FRUTESCENS. THE SHRUBBY. Gentianacæ. Pentandria Monogynia. (Pax. Mag. Bot.) (Synonym, *Cheronia frutescens*.) An old inhabitant

of our greenhouses, and which, when grown properly, forms a dwarf branching evergreen plant, which blooms freely and becomes a most showy object. The flowers are produced in terminal branching heads, each blossom being near two inches across, of a pretty rosy-lilac colour.

POTENTILLA McNABIANA. Mr. McNAB's. Rosaceæ. Icosandria Polyandria. (Pax. Mag. Bot.) This variety was raised from seed by Mr. Menzies, gardener to H. Edwards, Esq., Hope House, Halifax. It is an hybrid, raised between *Patrosanguinea* and *Pleucochroa*. It blooms very freely; each blossom a little more than an inch across, of a bright scarlet, with an orange centre. A very pretty variety.

SCUTELLARIA INCARNATA. FLESH-COLOURED. Labiæ. Didynamia Gymnospermia. (Bot. Mag. 4268.) A neat and pretty greenhouse plant, a native of Mexico. It grows about half a yard high, branching. The flowers are produced in terminal many-flowered racemes; a deep rosy-purple tube, with a rich scarlet pendant lip. Each blossom about an inch long. It is a pretty plant for the greenhouse, and peculiarly so for the beds of the flower-garden during summer. It is in Messrs. Veitch's collection.

STENOCARPUS CUNNINGHAMI. Mr. CUNNINGHAM'S. Proteacæ. Tetrandria Monogynia. (Bot. Mag. 4263.) Mr. A. Cunningham discovered this plant on the banks of the Brisbane River, Moreton Bay, in Australia. The plant is very suitable for a warm conservatory, and when in bloom is a most splendid object. It has bloomed, for the first time in this country, during the past summer, at the Glasgow and Birmingham Botanic Gardens. It is a handsome evergreen, with glossy foliage, and forms a small branching tree, three or four yards high, but no doubt it can be managed to flower in a much dwarfer state. The leaves are pinnatifid, from one to two feet long. The flowers are produced in large rays, several together forming a compound umbel. The blossoms are of a brilliant orange-scarlet, with large, striking, golden-yellow stigmas, which give a very beautiful contrast with the scarlet. At first, the three outer segments of each umbel of flowers become deflexed, hanging down around the stem, and the others stand erect, which, with the golden stamens, &c., compose a striking crown. It is singular and beautiful.

VANDA BATEMANNI. CRIMSON AND YELLOW VANDA. Orchidacæ. Gynandria Monandria. (Bot. Reg. 59.) Discovered in the Molucca Islands; sent to this country by Mr. Cuning. It has bloomed in Mr. Bateman's collection the last summer. The flowers are produced in large erect spikes, a score or more of them in each. A separate blossom is two inches and a half across; the under side of a pretty rosy-crimson; the upper side fine yellow, beautifully and numerously blotched with crimson. A very magnificent species, deserving to be in every collection.

NEW PLANTS NOTICED, NOT FIGURED.

HOYA CAMPANULATA. BELL-FORMED FLOWERS. The leaves are not fleshy, as the previously introduced kinds are. The flowers grow from the axils of the leaves, on slender peduncles, in considerable quantities, and each separate blossom is about three-quarters of an inch across, shining wax-like, greenish-yellow or cream-coloured. It is an interesting climbing plant. Messrs. Veitch possess it.

LIEBIGIA SPECIOSA. (Synonym *Tromædorffia speciosa*.) Messrs. Veitch received this plant from Java. It is a soft-wooded stove plant. It blooms profusely. The flowers are funnel-shaped, purple tube, sulphur-coloured throat, and white spreading flat limb. It is a very pretty plant.

RAPHISTEMMA PULCHRELLA. (Synonym *Pergularia campanulata*.) It is a similar plant to the beautiful *Stephanotis floribunda*, the flowers being in most respects like those of the *Stephanotis*, but of a larger size, and a pink streak down the middle of each segment of the otherwise pure white flower. The flowers are produced in large racemes, numerous. It is a neat climbing plant. At Knight and Perry's, Chelsea.

ON A PIT SUITED TO PRESERVE MANY TENDER PLANTS IN DURING WINTER, AS VERBENAS, PETUNIAS, HELIOTROPES, CHRYSIAS, &c.—A dry pit, with facilities for excluding frosts, is indispensable, when the amateur's stock exceeds what he can conveniently protect in his dwelling-house. Choose the highest and best-drained portion of the garden, and let the pots, when stored away, be placed with their tops a few inches below the surface of the surrounding ground. The ordinary covering of glass and a mat will suffice till hard frosts set in, when the sides of the frame placed over the pit should be protected with a lining of dry straw, or other material, piled to the level of the lights. This, with an extra mat or two, will defy all frost. *Experto crede.* But I must reiterate the necessity of giving air and light on every favourable occasion, and also of leaving the plants in darkness for a day or two whenever a thaw occurs. More plants are lost by exposure to solar light after frosts, than by any other means; and it is a fact that cannot be too extensively known, that frozen vegetation, even in the case of tender exotics, will recover itself in most cases, if allowed to thaw in the dark.

A. B.

ON RAISING ROSES FROM SEED, AND PRUNING THEM, &c.—A Constant Subscriber to the FLORICULTURAL CABINET, seeks for information as to the best method of raising Roses from seed.

Which kinds of Roses should be pruned in the autumn.
Isle of Wight, October 16.

The following particulars of the practice pursued by an extensive Rose grower and raiser of numerous good sorts, were sent us some time back, and will supply the information required.

"During the months of September and October I repaired to several first-rate nursery collections of Roses, in order to see which kinds, in each class of Roses, bore fruit the most freely, and ripened the earliest; and I then procured several of each class, which I planted at the proper season. These bloomed the following summer, and having a very extensive collection of nearly all the finest double Roses, I carefully selected *farina* from the best of the double flowers, and impregnated the fruit-bearing kinds therewith. The fruit-bearing flowers are generally not quite double, and I found it to be of use to thin out the larger trusses of flowers, so as to leave about half a dozen in a head of the plumpest buds.

"In the process of impregnation, just as the flowers to be impregnated are expanding, I cut away the anthers therein by means of a small pointed penknife or scissors, this prevents natural seedlings being produced from the kind. Where I had a specific design in the impregnation of any two kinds, after the operation had been effected, I tied a piece of fine gauze over the head of bloom to prevent access by bees, &c.

"In autumn, as soon as the seed was ripe, I had it gathered and placed in gauze bags, and so kept in the seed-vessel till required for sowing. Early in spring I sow the seed thinly in boxes, and place them in a gentle heat in a common frame, keeping the soil moist, not wet, till that portion which then pushes appears to have done entire for that season. When the plants can be safely transplanted, I have them carefully taken up, and planted in a rich soil and warm situation in the open garden, where they remain to bloom. The general quantity of the seed does not come up the first season, but remains to the second. I therefore have the boxes kept just moist, till the end of the summer, and then remove them into a dry place during winter. Early in spring place them in a gentle heat, and all the good seeds soon push forth plants, which are treated as before-named. Seed may be quite successfully treated by sowing in the open border, having it in a warm situation, and keeping it moist by covering the bed over with moss, &c. Two years are required here as in the former named instance, to get up the whole. During winter I usually spread dry leaves betwixt the plants that come up, and remain in the seed bed, so they be secured from injury by frost, being yet tender; this protection is removed at the spring. Moss or tanners' bark may be substituted for dry leaves where the latter are objected to.

"I have paid particular attention to crossing the most distant classes, as well as to obtain kinds which will bloom the longest period, and to get fine-coloured, fragrant, and very double Roses."

The period when to prune the Rose, varies in some measure, as affected by natural causes in character, by the season, or situation where grown. What are termed "the Roses for the Summer Rose garden," whose blooming season is June and July, usually ripen their shoots, and their firmness resists the winter, and may safely be pruned in autumn. Those kinds denominated "the Roses for the Autumn Rose Garden," do not ripen their shoots in unfavourable seasons and situations, so perfectly as to justify their being pruned till the early part of March, but, as stated above, season and situation will have their influence in the matter.

Well ripened shoots may safely be pruned in autumn; unripe ones, not till March, for if cut in autumn, the shoots would imbibe at the surface of the wounds more wet than if left entire, and in proportion be affected by frost and destroyed, in which case a second pruning would be necessary in spring.)

Summer Roses.—Provence, Moss, Damask, Alba (white). Gallica, French, or Garden Roses. Hybrid Provence, Hybrids of Bourbon, Noisette, and Chinese. Scotch, Austrian, Sulphurea, Sweet Briars, and their hybrids. Climbing, Ayrshire, Boursault, Evergreen, Banksian, Multiflora, Rubifolia, Hybrid climbing as Garland, Queen, &c.

Autumnal Roses.—Macartney, Microphylla, Musk, Perpetual, Bourbon, Noisette, Chinese or Bengal, Tea scented, Berberifolia, Hybrid Perpetuals.

CONDUCTOR.

ON DESTROYING THE RED SPIDER.—During the past dry summer I have been tremendously pestered with the Red Spider on my greenhouse plants; they completely mastered my efforts. What plan am I to pursue in order to conquer?

AN AMATEUR.

[The following practical method succeeded. CONDUCTOR.]

"I have been in the situation I now hold for the last ten years, and previously in the garden of a nobleman for seven: in both places I have had the care of fruit and plant houses, and, as a matter of course, I have had to contend with the Red Spider. Twelve years back I had a number of Vines, hothouse as well as greenhouse plants, attacked most ravenously by these detestable little scoundrels; I was advised to procure some common sulphur, using a quarter of a pound to a house of about eight or ten yards long. The mode of application was as follows: the sulphur being put into a large bowl, a large painter's dusting-brush was dipped in water, and after rolling it round in the sulphur, I laid it over, like painting, the hot-water pipes and fire-flues, putting the least proportion where the pipes or flues were hottest. I chose a dull day for the purpose, and kept the house close all day, unless the sun broke out, when a small ventilation was given in order to allow the strong fumes to escape. This plan succeeded to expectation, and a repetition of this practice three times each year has kept my plants entirely free.

"It is a custom with me to have each plant-house white-washed early every spring; and with three houses I mixed the sulphur, using the same proportion, with the quicklime-wash, and thus applying them together. This has succeeded also.

"By the above attentions such plants as Thunbergias, &c., which are very liable to be attacked by the insect, are kept perfectly free and flourish vigorously. Fuchsias I find cannot bear the sulphur fumes, I therefore remove them when applying the sulphur, and keep the house closed. They might probably bear it if of a much lower degree of intensity."

NEW CHRYSANTHEMUMS.—If you consider my notes of these desirable for insertion in your miscellany, they are very much at your service. The kinds described are not all the new ones I have met with, but those which I consider to be acquisitions to our collection of this improving and highly ornamental flower.

Wandsworth.

J. SMITH.

Marshal Soult.—A very compact and closely-formed flower, not more than of medium size. The colour clear bright yellow. This flower was received from

France last season, under the above name, and this year it has again been forwarded, under the fresh name of *Argo*.

Emelie Labois.—A small flower of very pretty shape, rosy in colour, with white tips.

Queen Victoria (Freestone's).—This is the most distinct, new-coloured flower I have seen, being a clear bright lilac. It is also a good-shaped flower, and no grower should be without it.

Lady Hemloke.—Rather dull lemon-yellow in colour, but it is very distinct and remarkably well-shaped.

Cyclops.—This is something after the same colour as the last, of compact and good shape.

Madame Salter.—A full and fine-shaped flower, of middle size, and every bloom appears good. The colour is deep crimson-red.

Striatum.—A great novelty, the colour being white, beautifully pencilled and striped with crimson. The flowers are not large, but well-shaped, and produced in clusters.

Satyr.—Lemon colour, of good shape.

Bride.—Not a compact-formed flower, but quite double, and very beautifully coloured with shaded blush.

Orlando.—Light red, with fine broad petals; well shaped.

Endymion.—Light crimson-purple; compact form.

Sphinx.—Of similar form to the last, but more red in the colour.

Nancy de Sermet.—This is quite an anemone flower, and very pretty. The colour is pure white, except the inner petals, which are tipped with yellow.

Remarkable.—This also is an anemone-flowered kind, of very large size and exceedingly showy. The colour is crimson, the inner petals being tipped with gold.

GRAFTING ROSES.—I budded some *Roses* for the first time in my life last summer, and this spring (end of March and beginning of April) I grafted some. Of the budded ones about half the number grew, but none have flowered. Of those grafted this spring, the whole, except what were broken off, have flowered. One of the grafts (a *Ruga* on a *Boursault* stock) has had fifteen flowers. I have no experience in these matters, but I think, if this is wonderful good luck, it beats budding hollow.—*Gardeners' Chronicle*.

ON THE CLOTH OF GOLD AND TEA ROSES, &c.—I should feel very much obliged to you if you would give me any directions as to the blooming of the Cloth of Gold Rose. I have a very magnificent plant budded on the Dog Rose, which covers eight or ten square feet of my garden wall. It continues pushing strong shoots; but there is no symptom of a flower. Can you tell me whether this Rose has been flowered in England out of doors, or under what treatment?

I have a nice collection of Tea Roses, but cannot get them to grow or to flower. They are in pots sunk in the border. I keep them in a cold frame in the winter. Will you give me a few hints as to soil, &c.? I am much pleased with your **FLORICULTURAL CABINET**; it deserves much credit, and ought to be well supported. I think a list of the new florists' flowers occasionally would be acceptable, such as a description of the *Verbenas* of the year, the *Fuchsias* and *Petunias*, &c. Could a corresponding member, possessing extensively of the best, favour you with a review of the flowers of the season, it would save purchasers from imposition. I could have wished the *Penstemon gigantea elegans* had been seen by you before the plate was sent. I am rather disappointed in the plant, which is now in full flower; it is not as sufficiently distinct from *P. gentianoides coccinea* as is desirable.

Rosa.

[The Cloth of Gold Rose is a vigorous grower, and if in a very rich soil it is liable to produce what are termed gross shoots, and such rarely produce flowers. In order to induce it to bloom, the branches should be trained more horizontal; and by checking over-luxuriance of leading stems, it will promote the desired vigour of the laterals, and contribute to their floral fertility.

The lateral shoots should be so regulated as only to retain the proportion that will admit a free effect of sun and air upon them, so that they may be properly ripened and the buds duly perfected. It will, therefore, on some occasions be

necessary to thin them, and only retain what the circumstances of the plant suggest. It should be borne in mind that, in order to its blooming well, ripened wood is essential.

In the warm parts of England the Rose blooms well against a south-aspected wall; but in the northern and colder parts it is difficult to get it to succeed in the open air, and winter protection is requisite, and a glass covering over it in the early part of the season to further its fertility.

If the roots of Tea Roses, plunged in beds, are confined to the pots alone, they rarely succeed beyond just being kept alive, and make little progress. At the time of planting out the bottom of the pot should be broken out, and any internal obstruction to the roots be removed; then being plunged in the bed, and having good soil *below* the roots, they usually flourish satisfactorily, and bloom as desirable. Being retained in the pot, which surrounds the sides, the plant can be taken up at the close of the season without danger, and, when required, be repotted into entire pots, and be afterwards placed in winter quarters.

CONDUCTOR.

LONDON HORTICULTURAL SOCIETY'S MEETING, November.—The plants produced on this occasion presented a fine display, especially the Orchids, among which were several magnificent specimens of *Cattleya labiata*. The best of these came from Messrs. Veitch and Son, and, although it had travelled all the way from Exeter, arrived in the finest condition. It had seven spikes, each with four or five large, handsome, purple flowers. It had been grown in the coolest part of the Orchid house, and had been allowed plenty of air during summer. Along with it were *Begonia fuchsoides*, a handsome bright red flowered *Fuchsia*-like species; a beautiful *Phalenopsis amabilis*; and a new *Clerodendron* from Java, a noble-looking plant, with remarkably fine large leaves, from whose axils spring panicles about a foot long, covered with multitudes of white, or rather blush-coloured blossoms. A Knightian medal was awarded for the *Begonia*, *Cattleya*, and *Clerodendron*. Various Orchids came from Messrs. Loddiges, of Hackney, and among them the buff-flowered *Calanthe cuculigoides*, *Catasetum saccatum*, one of the most extraordinary forms of the genus; *Celia macrostachia*, the brown-flowered *Oncidium crispum*, the beautiful little *Cattleya pumila*, *Lælia Perrinii*, the handsome *Odontoglossum Inseayi*, together with *O. grande* and *candidum*; a tall *Oncidium oblongatum*, the curious looking *Liparis pendula*, a dark variety of *Cypripedium barbatum* and *Epidendrum auritum*. A Knightian medal was awarded for the three first-mentioned plants, together with *Oncidium oblongatum*.—Mr. Robertson, gardener to Mrs. Lawrence, of Ealing Park, sent the beautiful *Lælia Perrinii*, *Oncidium Cavendishii*, *Barkeria Lindleyana*, a variety of *Erica Banksiana*, and *Saccolabium denticulatum*, for which last a Banksian medal was awarded.—Other Orchids were sent by Mr. Rae, gardener to J. J. Blandy, Esq., among which were *Cattleya labiata*, in lovely condition; *Miltonia candida* and *Clowesiana*; *Cirrhopetalum Medusæ*, rather past its best; *Lælia Perrinii*, the beautiful *Odontoglossum Inseayi*, *Crythochilum maculatum*, and an ugly, small, pale-flowered variety of *Oncidium ornithorhynchum*, showing that purchasers should be careful in obtaining the large dark-flowered sort.—From Mr. Webster, Earlsam gardens, were a beautiful *Cattleya labiata* and a cut spike of the Chinese *Renanthera coccinea*, for which a Banksian medal was awarded.—C. B. Warner, Esq., sent *Oncidium crispum*, the larger variety of *Oncidium papilio*, *Cattleya labiata*, *Lælia Perrinii*, and *Phalenopsis amabilis*; a certificate was awarded.—A famous *Cattleya labiata*, for which a Banksian medal was given, was produced by Mr. Moore, gardener to R. Hanbury, Esq., together with a specimen of *Mormodes aromaticum*, remarkable for its agreeable spicy odour. From Mr. Plant, gardener to J. H. Schröder, Esq., were *Lælia Perrinii*, *Lycaste Skinneri*, *Angrecum bilobum*, the bright orange-flowered *Epidendrum vitellinum*, a colour so rare among Orchids, and a very handsome *Oncidium*, with a large pale yellow lip and brown barred petals: a certificate was awarded for the latter.—Finally, Messrs. Rolleston, of Tooting, sent a collection of plants, in which was a fine specimen of *Miltonia candida*, also *Oncidium barbatum*, two *Odontoglossums*, *Cattleya labiata* and *bicolor*, *Octomeria graminifolia*, *Epidendrum patens*, and a new transparent blush-flowered *Dendrobium*, from Java.—From Mr. Glen-

dinning, of Chiswick, was a new white-flowered Hoya, for which a certificate was awarded. It had clean-looking, shining, dark green leaves, and white flowers, which were, however, only half expanded, and therefore seen to disadvantage.—J. Allunt, Esq., sent a basket of Camellia blooms; and collections of Chrysanthemum blooms came from the garden of E. Johnstone, Esq., of Stamford-hill, and from the nurseries of Messrs. Chandler and Sons, of Vauxhall, and Mr. Harrison, of Richmond. Amongst the latter were blooms of Prince of Wales, Maid of Athens, Claudius Ptolemy, Princess Alice, Bride, Emilie Labois, Mrs. Salter, Striatum, Goldsmith, General Marceau, and Argo.—From the garden of the Society was the noble mass of *Phalenopsis amabilis*, obtained in Manilla, by Mr. Fortune, just coming profusely into blossom a second time, and promising to continue so all the winter; also two Cattleyas, *Lycaste Skinneri*, the brown-spotted *Miltonia Russeliana*; large, noble-looking bushes, just coming into bloom, of *Veronica speciosa* and *salicifolia*; and a small-flowered Chrysanthemum, sent from China by Mr. Fortune. It is called the Chusan Daisy, and is held in great repute by the Chinese.

Of Miscellaneous Subjects was a barometer from T. N. Parker, Esq., of Sweney Hall, near Oswestry, which was stated to be an improvement on the common barometer, which, from the nature of its construction, is liable to some inaccuracy; and from Mr. Hogg's pottery, Holloway, were what were called toilet stands, for small flower pots, and holed saucer-shaped plates, for placing in the bottoms of flower pots for drainage.

Floral Operations for December.

PLANT STOVE.—Roses, Honeysuckles, Jasmines, Persian Lilacs, Azaleas, Rhododendrons, Carnations, Pinks, Primroses, Mignonette, Stocks, Aconites, Persian Irises, Crocuses, Cyclamens, Rhodoras, Cinerarias, Hyacinths, Ribeses, Sweet Violets, Ribes, Rhodora, Heliotropes, Narcissus, Tulips, Primroses, Lily of the Valley, Correas, Dentzias, Mezeremms, Hepaticas, Gardenias, &c., required to bloom from January, should be brought in early in the present month. The plants should be placed at first in the coolest part of the house; never allow them to want water. Pots or boxes containing bulbous rooted flowering plants, as Hyacinths, Narcissus, Persian Irises, Crocuses, &c., should occasionally be introduced, so as to have a succession of bloom. Many persons who take a delight in growing some showy hyacinths or other bulbous plants for adorning a room or window, &c., in winter or early in spring, have been frequently disappointed by the abortiveness of some and weakness of others. This principally arises from the inability of the plant to develop itself with a rapidity equal to the quantity of moisture it imbibes on account of its upper surface being acted upon too immediately by the atmosphere, &c.; hence arises the necessity of covering the bulb. That such is a fact is evidenced by the admirable and certain success of nearly every bulb, especially Hyacinths, that is covered with about six inches of old spent bark. This or some similar light material should always be used. Even bulbs intended to bloom in glasses we prefer starting in the old bark, and then transferring them to the glasses when the shoots are about two inches long. Where such covering is not adopted, it is of advantage to have the pots or glasses kept in a dark place till the shoots are two or three inches long. Cactus plants that have been kept out of doors, or in the greenhouse, should occasionally be brought into the stove for flowering, which gives a succession. If any of the forced plants be attacked with the green fly, a syringe with diluted tobacco-water will destroy them. If the leaves appear bit, and turn brown (the effect of damage by red spider), a syringe of soap-suds at the under side of the leaves is effectual to destroy them. The glutinous substance remaining, not only kills those it is applied to, but prevents others returning there. The old *Anaethemum pulchellum* with its fine blue flowers, *Justicia speciosa*, *Gesneria Zebrina*, *Justicia pulcherrima*, and *Appellandria cristata*, are fine winter ornamental blooming plants.

GREENHOUSE.—As much fire as will barely keep out frost, will be necessary, and for the purpose of drying up damp arising from foggy nights, or from watering. All possible air should be admitted in the day-time, but mind to keep

the plants from damage by frost. The plants must not be watered overhead. Some of the Chrysanthemums that are grown in pots and taken into the greenhouse will be found to have pushed a number of suckers. If the offsets are wanted for the increase of the kind, it is advisable to pinch off the tops, so as to prevent their exhausting the plant to the weakening of the flower. If the flower-buds are thinned out freely, it conduces to the increased size of those left. If the offsets are not wanted, it is best to pull up the suckers entire. Attention will be required to watering, as the roots absorb much if given: give manure water occasionally. If the plant is allowed to wither, it checks the flowers, whether in bud or expanded. So much do we admire this handsome genus of flowers, that we are fully persuaded their beautiful blossoms, exhibited in form and colour, will most amply repay for any labour that may be bestowed on the plants. If seed be desired retain the blooming stems on the plants, and keep them for some time in an airy warm situation to perfect.

Dahlia seed is best retained in the heads as grown, spread singly where they will not be liable to mould, and kept in a dry but not too hot a situation; being thus kept in the chaff, the small seeds will not shrivel, but be kept plump. The roots must be dried well before being put away, or will be liable to rot.

Fuchsias and greenhouse plants, intended to be inured to the open air, will require to have protection at the roots, and probably for the first winter, over the tops too, by furze branches, canvas, wicker-baskets, &c.

If greenhouse plants require watering or syringing over the tops, let it be done on the morning of a clear day, when air can be admitted; and towards evening a gentle fire-heat should be given.

FLOWER-GARDEN.—Be careful to protect beds of what are technically called "Florists' flowers," should severe weather occur. Calceolarias that were cut down and repotted last month will require attention. Not to water too much, or they will damp off. Keep them in a cool and airy part of the greenhouse or pit. Whilst in a cool and moist atmosphere, the shoots will often push at the under-side numerous rootlets. Where such are produced, the roots should be taken off and potted; they make fine plants for next season, and are easier propagated now than at any other season. Protect the stems of tender climbing Roses, and other kinds, by tying a covering of furze over them, that whilst it fully protects admits sufficiency of air for the well being of the plant.

Auriculus and Polyanthus require plenty of air in fine weather, and but little water. The like attention will be required to Carnations, Pinks, &c., kept in pots. Dahlia roots should be looked over, to see if any are moulding or likely to damage. Let the roots be dry before they are laid in heaps. Newly planted shrubs should be secured, so that they are not loosened by the wind. The pots of Carnations and Picotees should be placed in a situation where they may have a free air, and be raised above the ground. If they are under a glass case, it will be much better than when exposed to the wet and severity of the winter, or many will in all probability be destroyed. Where it is desirable to leave patches of border flowers undistributed, reduce them to a suitable size by cutting them round with a sharp spade. When it is wished to have a vigorous specimen, it is requisite to leave a portion thus undisturbed. Ten week Stocks and Mignonne, in pots for blooming early next spring, to adorn a room or greenhouse, must not be overwatered, and be kept free from frost. A cool frame, well secured by soil or ashes at the sides, and plenty of mats or reeds to cover at night, will answer well. Tender evergreens, newly planted, would be benefited by a little mulch of any kind being laid over the roots. During hard frosts, if additional soil be required for flower-beds upon grass lawns, advantage should be taken to have it conveyed at the time, so that the turf be not injured by wheeling. Pits or beds for forcing Roses, &c., should be prepared early in the month. Tan or leaves are most suitable, unless there be the advantage of hot water or steam. New planted shrubs of the tender kinds should have their roots protected by laying some mulch, &c. Suckers of Roses, &c., should now be taken off, and replanted for making bushes, or put in nursery rows; soils for compost should now be obtained. Beds of Hyacinths, Tulips, &c., should have occasional protection. Any roots not planted may successfully be done in dry mild weather till February.

INDEX.

to Vol 13 not finished

A.

AUTHORS.

	Page
A., remarks by	68, 282
A. B., query by	237, 260, 307
A. B. C., on heating by hot-water	86
A. Z., on <i>Luculia gratissima</i>	93
A Beginner, query by	66, 212, 282
A Constant Reader, query by	44
Subscriber, query by	115
A Country Curate, on the <i>Hepatica</i>	197
pleasure garden	249
A Curate, remarks by	71
A Florist, on raising the <i>Ranunculus</i>	174
on the culture of Brompton Stocks	128
A Flower Gardener, remarks by	215, 279
A Gardener, query by	42
A Lady, query by	21
Amateur Gardener, on <i>Pelargoniums</i>	130
Florist, on the culture of the <i>Anemone</i>	303
A Landscape Gardener, on landscape gardening	50
A London Amateur Grower, on plants in rooms	194
on the <i>Calceolaria</i>	132
remarks by	22
Exhibitor, on the culture of <i>Azaleas</i>	277
Grower, and a Successful Exhibitor, on <i>Pelargoniums</i>	247
Practitioner, on Japan Lilies	308
A North Briton, communications by	3
A Northern Florist, remarks on Pinks by	68
A Practical Gardener, on <i>Eranthemum pulchellum</i>	69
Lady Amateur, on <i>Mignonette</i>	278
Man, answer by	310
A Subscriber, query by	42, 43, 91, 92, 140
from the Commencement, query by	115, 260
in Wiltshire, query by	260
A Very Great Admirer of the Floricultural Cabinet, remarks by	239
Amicus, on <i>Bouvardias</i> for beds	77
An Amateur, a list of climbing plants by	67
remarks by	23
Cultivator, on hybrid <i>Corræas</i>	54
Florist, on the culture of <i>Lobelias</i>	176
on the gardens of Mexico	149
Gardener, remarks by	119
Grower, on a house for <i>Ericas</i>	133
query by	42
Plant Grower, on <i>Pentas carnea</i>	76

	Page
An Ardent Amateur Florist, on potting plants . . .	77
An Old Subscriber, query by . . .	91, 212, 237
Anael, a few words on the weather by . . .	234

ORIGINAL.

Allamanda Cathartica, on the culture of . . .	73
Alstromeria, on the culture of the Chilian . . .	270
Amaryllis tribe, on the culture of the . . .	122
Anemone, on the culture of the . . .	303
Azaleas, on the culture of . . .	277

NEW PLANTS.

Acanthophippium Javanese, noticed . . .	65
Achimenes argyrostigma, noticed . . .	235
Acuba Japonica (nov. spec.) noticed . . .	259
Aerides maculosum, noticed . . .	114
—— odoratum, noticed . . .	64
Allamanda Cathartica, noticed . . .	73
—— grandiflora, noticed . . .	136
Anemone obtusifolia, noticed . . .	17
Angræcum apiculatum, noticed . . .	136
—— distichum, noticed . . .	88
Angulosa Clowesii, noticed . . .	17
Anigozanthus pulcherrimus, noticed . . .	256
Aotus gracillima, noticed . . .	88
Aphelandra aurantiaca, noticed . . .	88
Arctostaphylos nitida, noticed . . .	185
Armeria Cephalotus, noticed . . .	17
Azalea Indica; var. carminata, noticed . . .	47
—— Emmelina, noticed . . .	47
—— erecta, noticed . . .	47
—— exquisita, noticed . . .	47
—— exquisite, noticed . . .	47
—— formosa, noticed . . .	47
—— gloriosa, noticed . . .	47
—— King of Saxony, noticed . . .	47
—— laterita-pulchella, noticed . . .	47
—— optima, noticed . . .	47
—— præstantissima, noticed . . .	47
—— refulgens, noticed . . .	47
—— splendida, noticed . . .	47
—— Lætitia, noticed . . .	257
—— Ludovica, noticed . . .	304

EXTRACTS.

A Practical Treatise on Warming Buildings by Hot-water, extract from . . .	297
Amaryllidaceæ, extract from . . .	122

MISCELLANEOUS.

Page

Achimenes, remarks on	46
Amaryllis, remarks on the	119
Anagallis, query on	113
Anemonies, a list of double	192
Ants, query on destroying	42
—— remarks on banishing	119
April, Floricultural Calendar for	95
August, Floricultural Calendar for	216
Auriculas, a list of	284
Australian Seeds, answer on	67
—— query on	67
Azalea Indica, a list of new varieties of	47

B.

AUTHORS.

B., remarks by	93
Barnes, Mr. J., remarks by	68, 69
Bell, Mr. J., a list of Carnations, &c., by	118
Burriensis, query by	93

ORIGINAL.

Bouvardia flava, on the culture of	265
Bouvardias, on the culture of	77
Brompton Stocks, on the culture of	128
Broom, observations on the	98

NEW PLANTS.

Backhousia myrtifolia, noticed	41
Barbacenia purpurea, noticed	88
—— squamata, noticed	41
Barleria (nov. spec.) noticed	259
Beaufortia splendens, noticed	90
Befaria glauca, noticed	138
Begonia albo-coccinea, noticed	209
—— maniculata, noticed	138
—— Martiana, noticed	235
—— peltata, noticed	138
—— ramentacea, noticed	136
—— rubricaulis, noticed	17
—— stigmosa, noticed	138
Bellevallia Syriaca, noticed	20
Berberis trifoliata, noticed	64
Bidwellia glaucescens, noticed	20
Blandfordia marginata, noticed	113
Bolbophyllum careyanum, noticed	185
—— umbellatum, noticed	235

	Page
<i>Boldoa fragrans</i> , noticed	281
<i>Bougainvillea spectabilis</i> , noticed	115
<i>Bouvardia flava</i> , reference to plate	265
<i>Brownea ariza</i> , noticed	90
<i>Buddleia Lindleyana</i> , noticed	238
<i>Burtonia brunoides</i> , noticed	211

MISCELLANEOUS.

Balsam seed, remarks on	307
Birds, on preserving seeds from	47
<i>Bouvardia triphylla</i> , remarks on	71
Botanic Society of London, exhibition of	142, 199, 218
<i>Brachycome Iberidifolia</i> , answer on	140
————— query on	140
<i>Brugmansia parviflora</i> , remarks on	237

C.

AUTHORS.

C. C., on <i>Pelargoniums</i> for planting out	147
Ch. J., on <i>Gunnera scabra</i>	273
Clark, Mr. Charles, on the effects of Camphor	2
Clericus, answer by	192
———— observations on the culture of Ferns by	293
———— on charcoal	46
———— on double Sweet Williams	148
———— on dwarf Chinese <i>Chrysanthemums</i>	178
———— on hot-house plants	215
———— on the culture of <i>Clianthus puniceus</i>	130
———— ———— <i>Luculia gratissima</i>	79
———— on the dwarf blue Gentian	215
———— on the history of gardening	33, 56
———— remarks by	46, 215, 237
Conductor, answers by 21, 22, 42, 43, 44, 66, 67, 90, 91, 92, 94, 115, 120, 140, 141, 186, 212, 237, 260, 281, 282, 307	
———— remarks by	70, 71, 215, 310

ORIGINAL.

<i>Calceolarias</i> , remarks on the culture of	133
<i>Camellia Marchioness of Exeter</i> , on inarching the	32
Camphor, on the effects of	2
<i>Chrysanthemum</i> , on dwarf plants of the	178
<i>Clianthus puniceus</i> , on the culture of	130, 279
Corræas, on obtaining hybrid	54
<i>Cyclamen Persicum</i> , on the culture of	241

NEW PLANTS.

Page

<i>Cajanus bicolor</i> , noticed	185
<i>Calandrinia umbellata</i> , noticed, 236; reference to plate	266
<i>Calathea villosa</i> , noticed	88
<i>Calceolaria alba</i> , noticed	137
<i>Caliphruria Hartwegiana</i> , noticed	19
<i>Calliandra Tweedii</i> , noticed	280
<i>Callipsyche eucrosioides</i> , noticed	236
<i>Camellia Lowe's centifolia</i> , noticed	139
————— <i>Jubilee</i> , noticed	139
<i>Casselia integrifolia</i> , noticed	259
<i>Cattleya granulosa</i> ; var. <i>Russelliana</i> , noticed	305
————— <i>Papeiansciana</i> , noticed	138
<i>Ceradia furcata</i> , noticed	65
<i>Cerbera fruticosa</i> , noticed	139
<i>Cestrum aurantiacum</i> , noticed	114
<i>Chirita Zeylanica</i> , noticed	256
<i>Chironia floribunda</i> , noticed	209
<i>Chlorœa virescens</i> , noticed	257
<i>Chœnostoma polyantha</i> , noticed	211
<i>Columnnea</i> (nov. spec.) noticed	259
<i>Combretum latifolium</i> , noticed	185
————— <i>splendens alba</i> , noticed	307
<i>Chorizema Chandleri</i> , noticed	139
<i>Correa</i> (nov. hyb.) noticed	42, 137
————— <i>bicolor</i> , noticed	139
————— <i>ventricosa</i> , noticed	139
<i>Croci autumnales</i> , noticed	209
<i>Cryptadenia uniflora</i> , noticed	64
<i>Cuphea strigulosa</i> , noticed	18
<i>Cymbidium Mastersii</i> , noticed	257
<i>Cynoglossum longiflorum</i> , reference to plate	1

MISCELLANEOUS.

Cacti, remarks on sowing seed of	261
<i>Calceolaria</i> , on the culture of the	118
<i>Calceolarias</i> , answer on	310
————— query on	115
<i>Calla Ethiopica</i> , query on	115
<i>Canna Iridiflora</i> , remarks on	215
Carnation Show, remarks on a	22
Carnations, answer on	186
————— on preserving from rabbits	68
————— query on	186, 212
————— and <i>Picotees</i> , a list of superb	118
————— on the properties of	283
Charcoal, on making	22
————— remarks on	46, 69
<i>Chelone barbata</i> , remarks on	93
<i>Chrysanthemums</i> , answer on	307
————— query on	307
<i>Clerodendrons</i> , remarks on	22

	Page
<i>Clanthus puniceus</i> , query on	115
<i>Cotoneaster microphylla</i> , remarks on	310
Currant, on the double red	284

D.

AUTHORS.

<i>Dianthus</i> , on the lacing of the Pink	33
— remarks by	22

ORIGINAL.

<i>Dipladenia crassinoda</i> , on the culture of	145
--	-----

NEW PLANTS.

<i>Dais cotinifolia</i> , noticed	259
<i>Dendrobium anosmum</i> , noticed	138
— <i>fimbriatum</i> ; var. <i>oculatum</i> , noticed	137
— <i>Kingianum</i> , noticed	185
— <i>macrophyllum</i> , noticed	139
— <i>moniliforme</i> , noticed	114
— <i>Pierardi</i> , noticed	139
<i>Dendrobium pulchellum</i> ; var. <i>purpureum</i> , noticed	139
<i>Dianthus Gœthadsii</i> , noticed	259
<i>Dipladenia crassinoda</i> , reference to plate	145
— noticed	18
<i>Disocactus biformis</i> , noticed	65
<i>Disophylla stellata</i> , noticed	114

MISCELLANEOUS

Dahlias, query on a list of	42
December, Floricultural Calendar for	311
Drainage for pots, remarks on	214

E.

AUTHOR.

Enquirer, query by	116
----------------------------	-----

ORIGINAL.

<i>Echium petraeum</i> , on the culture of	1
<i>Eranthemum pulchellum</i> , observations on	60
<i>Ericas</i> , observations on a house for	133
— on the propagation of	13
Exhibitions, grand floral	154, 199, 243, 261, 266, 290
Exotics, on sowing the seeds of	225

NEW PLANTS.

<i>Echeveria Scheeri</i> , noticed	138
<i>Echinocactus multiflorus</i> , noticed	258

INDEX.

319

	Page
<i>Echinocactus myriostygma</i> , noticed	236
——— <i>oxygonus</i> , noticed	185
<i>Echites nutans</i> , noticed	139
<i>Echium petreum</i> , reference to plate	1
<i>Epacris Atleeana</i> , noticed	139
——— <i>coccinea</i> , noticed	139
——— <i>elegantissima</i> , noticed	140
<i>Epidendrum æridiforme</i> , noticed	65
——— <i>ceratistes</i> , noticed	20
——— <i>dipus</i> , noticed	41
——— <i>Lindenii</i> , noticed	211
——— <i>macrochilum</i> ; var. <i>roseum</i> , noticed	18
——— <i>radicans</i> , noticed	236
——— <i>rufum</i> , noticed	138
<i>Eranthemum strictum</i> , noticed	306
<i>Eremostachys laciniata</i> , noticed	257
<i>Eria Dillwynii</i> , noticed	258
——— <i>vestita</i> , noticed	41
<i>Eriostema cuspidata</i> , noticed	139
——— <i>scabra</i> , noticed	139
<i>Eustoma exaltatum</i> , noticed	88

MISCELLANEOUS.

Ealing Park, observations on the gardens at	143, 186
<i>Erica mutabilis</i> , query on	237
<i>Erythrina laurifolia</i> , answer on	140
——— query on	140
Exotics, remarks on preserving	116

F.

AUTHORS.

F. G. A., on destroying scale	283
F. N. B., on drying specimens of flowers	190
Felix, query by	281
Flora, observations on the broom by	98
——— on planting flowers in masses	74
——— on the culture of <i>Cyclamen Persicum</i>	241
Frutex, on preserving shrubs from wind	192

ORIGINAL.

Ferns, observations on the culture of	293
Floricultural Society of South London, exhibition of	243
Floriculture and Horticulture, observations on	3
Flower-garden, on providing tender plants for the	10
Flowers, observations on the culture of	103
——— in masses, on planting	74

NEW PLANTS.

Page

<i>Fedia grauliflora</i> , noticed	236
<i>Francisceae acuminata</i> , noticed	280
———— <i>Pohlana</i> , reference to plate	145
<i>Fuchsia picta</i> , reference to plate	122
———— <i>Queen Victoria</i> , reference to plate	25
———— <i>serratifolia</i> , reference to plate	193

MISCELLANEOUS.

February, Floricultural Calendar for	47
Flower-garden, query on a plan of a	259
———— stands, query on	237
Flowers, remarks on drying specimens of	190
<i>Fuchsias</i> , remarks on grafting	93
———— for borders, remarks on	70
Fumigating, remarks on	308

G.

AUTHOR.

G. M. S., query by	21
------------------------------	----

ORIGINAL.

<i>Gardenia Stanleyana</i> , on the culture of	289
Gardens of Mexico, remarks on the	149
Gardening, on the history of	33, 56
Greenhouses, on heating by hot water	86
<i>Gunnera scabra</i> , remarks on	273

NEW PLANTS.

<i>Galanthus reflexus</i> , noticed	138
<i>Gardenia Stanleyana</i> , noticed, 258; reference to plate	289
<i>Gaylussaccia pseudovaccineum</i> , noticed, 18; reference to plate	97
<i>Genista Spachiana</i> , noticed	305
<i>Gesneria Geoldiana</i> , noticed	259
———— <i>Schiedeana</i> , noticed	114
———— <i>vestita</i> , noticed	90
<i>Gladiolus festivus</i> , noticed	20
———— <i>gracilis</i> , noticed	139
———— <i>hirsutus</i> , noticed	139
<i>Gloxinia tubiflora</i> , noticed	41
<i>Gompholobium barbigerum</i> , noticed	210
———— <i>Hendersonii</i> , reference to plate	121
———— <i>versicolor</i> ; var. <i>caulibus purpureis</i> , noticed	257
<i>Gongora truncata</i> , noticed	280
<i>Goodenia grandiflora</i> , noticed	137
<i>Griffinia hyacinthina</i> , noticed	248

EXTRACTS.

Gardener's Chronicle, extracts from the, 68 , 69 , 118 , 191 , 212 , 214 , 282	
----- Journal, extracts from	238 , 308

MISCELLANEOUS.

Gardener's Society of Regent's Park, meeting of	308
Gentian, remarks on the dwarf blue	215
Geranium, see <i>Pelargonium</i> .	
Gesneria Zebrina, answer on	43
----- query on	42
Glass, on a substitute for	70
----- and Glazing, remarks on	282
----- labels, remarks on	191
Glycine Harrissonia, answer on	237
----- query on	237
----- Sinensis, remarks on	71
Goldfussia glomerata, answer on	43
----- query on	43
Guano, query on	43
----- remarks on	68 , 190

H.

AUTHORS.

H. , query by	92
Hamilton, Mr. James, on the <i>Ranunculus</i>	30

ORIGINAL.

Hepatica, remarks on the	197
Horticultural Society of London, exhibition of	155
Hot-water, on heating by	86 , 297

NEW PLANTS.

Habranthus concolor, noticed	280
----- nobilis, noticed	19
Habrothamnus fasciculatus, noticed	258
Hebecladus biflorus, noticed	305
Helcia sanguineolenta, noticed	89
Hindsia longiflora alba, noticed	211
Hoitzia coccinea, noticed	306
Hybauthera cordifolia, noticed	90
Hydrolea spinosa, noticed	211

REVIEW AND EXTRACTS.

Hortus Cantabrigensis, reviewed	256
Hovey's Magazine of Horticulture, extract from	190 , 191

MISCELLANEOUS.		Page
Heartsease affected with Mildew, answer on	.	22
————— query on	.	21
Heaths, remarks on training	.	263
Herbaceous plants, a list of Spring-flowering	.	92
Horticultural Society of London, meeting of	.	94, 141, 213, 286
Hothouse plants, remarks on	.	215
Hoveas, answer on	.	237
————— query on	.	237
Hyacinth stands, remarks on	.	70
Hyacinths, answer on	.	260
————— query on	.	260
————— in glasses, remarks on	.	283

L

AUTHOR.

Isabella, query by	.	115
--------------------	---	-----

NEW PLANTS.

Iochroma tubulosa, noticed	.	114
Iris imbricata, noticed	.	210
Ixiolirion montanum, noticed	.	18
Ixora (nov. spec.) noticed	.	259
———— odorata, noticed	.	305

MISCELLANEOUS.

Insects infesting frames, remarks on	.	238
———— the Cineraria, remarks on	.	239

J.

AUTHORS.

J. E., query by	.	259
J. R., on preserving seeds from birds	.	47
Johnson, Mr. William, on a new Nemophila.	.	284
Johnstone, Louisa, on tender plants	.	10
Jones, Mr., on Whitney's prepared Calico	.	26
Juvenis, query by	.	43

ORIGINAL.

Jacaranda mimosafolia, on the culture of	.	73
--	---	----

NEW PLANTS.

Jacaranda mimosafolia, reference to plate	.	73
———— tomentosa, noticed	.	305
Jasminum affine, noticed	.	137
Justicia (nov. spec.) noticed	.	306, 307

MISCELLANEOUS.

Jacobæa Lily, answer on	120
January, Floricultural Calendar for	23
Japan Lilies, remarks on	93, 308
Jasmine, answer on the Cape	21
———— query on the Cape	20

K.

AUTHOR.

Kerrison, Mr. Thomas, query by	90
--	----

L.

AUTHORS.

Lockhart, Messrs. T. and C., a list of Anemones by	192
Lucy, on the vegetation of seeds	238

ORIGINAL.

Landscape gardening, remarks on	50
Leschenaultia formosa, on the treatment of	29
Lobelias, on the culture of	176
Luculia gratissima, on the culture of	79
———— remarks on	93

NEW PLANTS.

Loelia majalis, noticed	60
Laplacea semiserrata, noticed	19
Laurus pumeo, noticed	139
Leianthus longifolius, noticed	210
Lennia Robinioides, noticed	60
Leochilus herbaceus, noticed	20
———— sanguineolentus, noticed	20
Leptotes bicolor, noticed	139
Lilium Thomsonianum, noticed	41
Lisianthus glaucophyllus, noticed	259
———— longiflorus, noticed	306
Lobelia Texensis, noticed	89
———— thapsioidea, noticed	114
Luculia Pinciana, noticed, 413; reference to plate	49
Lupinus ramosissimus, noticed	137
Lycaste fulvescens, noticed	305
Lycium Fuchsioides, noticed	88

MISCELLANEOUS.

Lachenalias, remarks on	286
Lilies, remarks on new hybrid	216

	Page
<i>Lilium lancifolium</i> , answer on	116
— query on	115
Lily, answer on the <i>Belladonna</i>	192
— <i>Jacobæa</i>	120
— remarks on the Japan	93, 308
<i>Luculia gratissima</i> , remarks on	214

M.

AUTHORS.

M. A., query by	186
M. A. H., query by	260
M'Intosh, Mr. J., remarks by	22
Mary, remarks by	70

ORIGINAL.

Metropolitan Floricultural Society, exhibition of	266, 290
Mignonette, on raising from cuttings	278
<i>Myosotis Azorica</i> , on the culture of	1

NEW PLANTS.

<i>Mandevilla suaveolens</i> , reference to plate	97
<i>Mandevilla fenestrata</i> , noticed	185
<i>Maxillaria Lyonii</i> , noticed	89
— <i>triangularis</i> , noticed	65
<i>Melastoma Niveniana</i> , noticed	306
<i>Miltonea cuneata</i> , noticed	65
<i>Mirbelia speciosa</i> , noticed	139
<i>Mussaenda macrophylla</i> , noticed	281
<i>Myoporum serratum</i> , noticed	88
<i>Myosotis Azorica</i> , reference to plate	1

MISCELLANEOUS.

<i>Mandevilla suaveolens</i> , answer on	67
— query on	67
Manure, answer on	43
— query on	43
March, Floricultural Calendar for	71
May, Floricultural Calendar for	120
Mignonette, on growing in pots	238
Moss, as a protection from frost	61

N.

NEW PLANT.

<i>Nymphæa rubra</i> , noticed	41
--	----

MISCELLANEOUS.

Page

Nemophila, remarks on a new	284
November, Floricultural Calendar for	288

O.

NEW PLANTS.

Odontoglossum Cervantesii, noticed	210
— membranaceum, noticed	138
Oenotochilus setacea, noticed	139
Oncidium bicallosum, noticed	89
— gallopavium, noticed	138
— incurvum, noticed	305
— spilopteri, noticed	210
— tricolor, noticed	19
Orthrosanthes multiflora, noticed	19
Ornithidium miniatum, noticed	258
Ornithogalum aureum, noticed	258
Oxalis discolor, noticed	66

REVIEW AND EXTRACT.

Observations on the culture of Roses in Pots, reviewed	15, 61, 106
Orchidaceæ of Mexico and Guatemala, extract from	44

MISCELLANEOUS.

October, Floricultural Calendar for	263
Orange trees, answer on	116
— query on	116
Orchideous plants, on the culture of	44

P.

AUTHORS.

P., query by	66
P. M., remarks by	119
Paul, Mr. W., a trip to Paris by	309
Peterson, Mr. A., on the Amaryllis	119

ORIGINAL.

Pelargoniums, on planting out	130, 147
— on the propagation of	247
Pentas carnea, on the culture of	76
Petasostylis nigrescens, on the culture of	290
Pinks, on the lacing of	33
Plants, on growing in rooms	194
— remarks on potting	77
Pleasure garden, observations on the	249

	Page
NEW PLANTS.	
<i>Pæonia Whitmannia</i> , noticed	259
<i>Pavetta Borbonica</i> , noticed	138
<i>Pelargonium Desdemona</i> , reference to plate	217
—— <i>Heidos</i> , reference to plate	217
<i>Petasostylis nigrescens</i> , reference to plate	290
<i>Peristeria Humboldtii</i> ; var. <i>flava</i> , noticed	137
<i>Phædranassa chloracra</i> , noticed	89
<i>Phælanops amabile</i> , noticed	139
<i>Phlomis Cashmeriana</i> , noticed	236
<i>Phlox Captivation</i> , reference to plate	49
<i>Phycella obtusa</i> , noticed	20
<i>Phyllarthron Bojerianum</i> , noticed	210
<i>Physianthus auricomis</i> , noticed	90
<i>Pink Turner's masterpiece</i> , reference to plate	241
<i>Plantia flava</i> , noticed	20
<i>Pleroma Kunthiana</i> , noticed	210
—— <i>petiolata</i> , noticed	42
<i>Porphyrocoma lanceolata</i> , noticed	236
<i>Potentilla bicolor</i> , noticed	306
<i>Pronaya elegans</i> , noticed	185

EXTRACT.

Prescott's History of the Conquest of Mexico, extract from	149
--	-----

MISCELLANEOUS.

<i>Pelargoniums</i> , answer on	43, 212, 281
—— on cutting down	237
—— query on	43, 186, 212, 281
<i>Pentstemons</i> , answer on	44
—— query on	44
<i>Petunias</i> , on heading down	91
—— query on	115
<i>Phloxes</i> , answer on a list of	260
—— query on a list of	260
<i>Picotees and Carnations</i> , a list of	118
—— query on	212
<i>Pinks</i> , on preserving from rabbits	68
—— remarks on the best twelve	22
<i>Plants</i> , a list of climbing	67
—— answer on increasing from cuttings	90
—— on winter blooming	23
—— query on increasing from cuttings	90
<i>Polyanthus</i> , query on the	92
<i>Potter's liquid Guano</i> , remarks on	119

Q.

AUTHOR.

Q., query by	43
------------------------	----

R.

AUTHORS.

R. H. P., query by	21
Reynolds, Mr. George, on inarching the Camellia	32
Rosa, a list of climbing Roses by	93
— remarks by	44

ORIGINAL.

Ranunculus, on raising the, from seed	174
— on the culture of the	39
Rose, on budding the	231
— on grafting and striking the	275

NEW PLANTS.

Rhododendron; var. conspicua, noticed	139
— Smithi-Chandleri, noticed	139
— venustum, noticed	139
Rhodosthema gardenioides, noticed	259
Rhus diversiloba, noticed	211
Ribes sanguineum flore-pleno, noticed	210
Rondeletia longiflora, reference to plate	121
— speciosa major, noticed	90
Ruellia lilacina, noticed	89
— macrophylla, noticed	307
— maculata, noticed	307

MISCELLANEOUS.

Rabbits, on preserving Pinks, &c., from	68
Ranunculus, on the cultivation of the	191
Red Spider, on the destruction of	69
Rhodanthe Manglesii, query on	43
Rhododendrons, on budding	286
Rose, remarks on the Banksian	23
Roses, a list of climbing	285
— late blooming	261
— moss	285
— perpetual	66, 282
— training	93
— a trip in search of	308
— answer on a list of	66, 261, 282
— on increasing by cuttings	44
— query on a list of	66, 261, 282

S.

AUTHORS.

S., on winter blooming plants	23
Sarah Elizabeth, on the culture of flowers	103

	Page
Senex, on drainage for pots	214
—— on grafting and striking the Rose	275
—— on succulents	47
Stokes, Mr. J. P., remarks by	22
Suburbanus Norvicensis, query by	67

ORIGINAL.

Salvias, on planting out	130
Seeds, on the production of perfect	80
Sweet Williams, observations on double	148

NEW PLANTS.

Salpichroa glandulosa, noticed	237
Salpichroa coccinea, noticed	138
Salvia azurea, noticed	89
—— strictiflora, noticed	19
—— tubiformis, noticed	65
Scaevola attenuata, noticed	306
Scelochilus Ottonis, noticed	66
Schromburgkia tibicinus-grandiflora, noticed	186
—— undulata, noticed	280
Selago distans, noticed	236
Sida graveolens, noticed	42
—— Pæoniflora, noticed	211
Sidophyllum longifolium, noticed	138
Siphocampylus coccinea, reference to plate	146
Smeathmannia lævigata, noticed	306
Solanum macranthum, noticed	65
Spathoglottis Fortuni, noticed	114
Spiranthus lobata, noticed	138
Spirea Douglassi, noticed	280
—— Lindleyana, noticed	186
—— Reevesi, noticed	132
Stachytarpheta (nov. spec.), noticed	307
Stanhopea Bucephalus, noticed	138
Stapelia cactiformis, noticed	19
Statice (nov. spec.), noticed	237
—— Fortuni, noticed	306
Stephanotus floribundus, noticed	307
Strelitzia augusta, noticed	211
Styphelia tubiflora, noticed	89
Syringa Emodi, noticed	42

MISCELLANEOUS.

Scale, remarks on destroying	283
Seeds, on preserving from birds	47
—— on promoting the vegetation of	238
September, Floricultural Calendar for	239
Shrubs, on planting evergreen	23
—— to preserve from injury by wind	192
Slugs, query on destroying	66

	Page
Stocks, remarks on	212
—— and Wallflowers, answer on	21
—— query on	21
Strelitzia reginæ, answer on	21
—— query on	21
Succulents, remarks on	47

T.

AUTHOR.

The Foreman of a London Nursery, on sowing the seeds of exotics	225
—— on the propagation of <i>Ericas</i>	13

ORIGINAL.

Tropæolum Lobbianum, on the culture of	25
Tuberoze, remarks on the	83

NEW PLANTS.

Tacsonia mollissima, noticed	280
Tasmania aromatica, noticed	236
Tetralthea hirsuta, noticed	19
Tetrumema Mexicana, noticed	258
Tigridia lutea, noticed	66
Tillandsia vitellina, noticed	66
Trachelium linearis, noticed	307
Tradescantia Zebrina, noticed	139
Trimezia Meridensis, noticed	20
Tropæolum Brickwoodii, reference to plate	146
—— Lobbianum, reference to plate	25
Turnera ulmifolia, noticed	42

REVIEW.

The Lady's Country Companion, reviewed	134, 179
--	----------

MISCELLANEOUS.

Tagetes tenuifolia, remarks on	308
Thrip, on destroying the	68, 238
Tobacco-water, answer on	260
—— query on	260
Tropæolum pentaphyllum, query on	91
—— tricolorum, remarks on	70

V.

AUTHOR.

Van Houtte, M. Louis, on the <i>Alstromeria</i>	270
VOL. XIII. No. 154.	2 D

ORIGINAL.

Vasalia floribunda, on the culture of	146
Verbenas, on planting out	130

NEW PLANTS.

Vasalia floribunda, reference to plate	146
Viola Neapolitana; var. arborea, noticed	307

MISCELLANEOUS.

Verbenas, query on	115
--------------------	-----

W.

AUTHORS.

W. W., on budding the Rose	231
Wilson, Mr. J. D., on Leschenaultia formosa	22

ORIGINAL.

Weather, a few words on the	234
Whitney's prepared Calico, observations on	26

NEW PLANT.

Whitfieldia laterita, noticed	236
-------------------------------	-----

MISCELLANEOUS.

Walks, to free from weeds	91
Wallflowers and Stocks, answer on	21
query on	21
Wasp's Nests, on destroying	70
Wireworm, remarks on	214

EMBELLISHMENTS. *Vol 13.*

	Page
Allamanda Cathartica	73
Bouvardia flava	265
Calandrinia umbellata	265
Chaenostoma polyantha	241
Cynoglossum longifolium	1
Dipladenia crassinoda	145
Echium petræum	1
Franciscea Pohlana	145
Fuchsia picta	121
——— Queen Victoria	25
——— serratifolia	193
Gardenia Stanleyana	289
Gaylussaccia pseudovaccineum	97
Gompholobium Hendersoni	121
Jacaranda mimosafolia	73
Lucula Pinciana	49
Mandevillea suaveolens	97
Myosotis Azorica	1
Pelargonium Desdemona	217
——— Heidos	217
Petasostylis nigrescens	289
Phlox Captivation	49
Pink Turner's Masterpiece	241
Rondeletia longiflora	121
Siphocampylus coccinea	193
Tremandra Hugelii	241
Tropæolum Brickwoodii	145
——— Lobbianum	25
Vasalia floribunda	193

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